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THE IMPROVEMENT OF TEACHING

The Modern Teachers Series

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A Kindergarten Group Out of Doors

The American kindergarten has influenced the entire elementary school in causing a more wholesome attitude toward child life. Every growing teacher should make a study of the kindergarten, where he may observe the teaching of *fundamentals*, such as self expression, fair play, and democracy in everyday relationships; with all three eventually fusing in the socialization, in the full significance of the word, of the children who attend.

(See Chapter V)

THE IMPROVEMENT OF TEACHING

BY

GEORGE E. FREELAND

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FORMERLY ASSOCIATE PROFESSOR OF EDUCATION UNIVERSITY OF WASHINGTON, SEATTLE

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To

Z. X. S.

IN MEMORIAM

A GREAT TEACHER WHO CONTINUED
TO GROW EVERY DAY THAT HE LIVED

1253

PREFACE

THE reader of this book should understand that it is based throughout upon the observation of teaching. The work of successful teachers was given first consideration in accordance with the principle that a program which had already proved successful might be substituted for any type of failure. This made it possible to keep the discussion constructive. The plan also avoids any assumption on the part of the writer, who frankly admits that his own opinions of what may constitute successful teaching have been modified many times during this study.

The success of teachers was judged upon the basis of the following norms:

1. Enjoyment, or lack of it, in the work of teaching.
2. Advancement by school officers in salary and in types of position held.
3. Judgment of superintendent, principal, supervisor, and capable fellow teachers.
4. Attitude of children and parents toward the teacher.
5. As rated by teacher measurement sheets.
6. Occasionally it was possible to study teachers when classes were being measured in different subjects by standardized tests. The results were

used whenever they seemed to throw light upon the ability of the teacher.

It was not always possible to use all the different norms, nor were they used mechanically. They served as a basis of judgment.

The teachers observed were divided into three classes, *superior*, *average*, and *inferior*. The three groups were then studied in order to establish, if possible, the essential differences. After the special factors in the teaching of superior teachers that distinguish them from average or inferior teachers had been catalogued, they were grouped in a plan for the improvement of teaching. This plan has been given several years' trial in the training of both beginners and experienced teachers. It has finally become a growing body of suggestions involving many issues that have already been discussed in literature on the subject of teaching. The hope that the plan of improvement might take a definite form has gradually given way to a willingness to present a group of suggestive and more or less unfinished chapters, for the problems of teaching are too complex and as yet too much unsolved to lend themselves to any set scheme of solution.

The material has been prepared for three types of readers. First consideration was given to students preparing for the teaching profession. It is hoped that in the descriptions of the work of superior teachers they will read the message of thorough training followed

by continuous growth as long as they remain in this important work. Improvement in teaching is less difficult when established in the mind of the beginner as a part of his preparation. The illustrations and discussions have been planned especially for classes in methods of teaching and for curriculum courses. Next in importance are the teachers in service. This description of how successful teachers have developed may furnish information as well as inspiration for many who are desirous of advancing. Lastly it is hoped that the general public, parents, school boards, and those who support public education may read this report as well as other studies in education in order that the demand for better teaching may increase and that superior work may be appreciated.

In conclusion acknowledgments are made to the following persons: to Prof. James C. DeVoss for advice on some of the issues in the three chapters that deal with the principles of testing; to Dr. W. C. Bagley for a fine criticism which has helped especially in keeping each phase of the discussion constructive and of service to teachers; and to the Macmillan Company for its most valuable editorial service. Mention should also be made of the splendid coöperation of the many teachers whose work has furnished a basis for the book, and special credit should be given to Miss Roxanna Adams, who furnished some of the most valuable illustrations, and to Miss Belle Melvin, who provided the illustrations for Chapter XII.

EDITOR'S INTRODUCTION

As a group, books on the art of teaching have had an unfortunate reputation of dealing far too exclusively with abstractions and generalizations. In an effort to meet this criticism, some writers have swung to the opposite extreme. They have tried to avoid theory entirely and have limited themselves to a thoroughly empirical statement of what they believe to be "good practice." Between these two extremes is the most helpful type of book, — the book that sets forth clearly and concretely the procedure that seems to be the best from every reasonable point of view, — and then, often explicitly, sometimes by implication, — indicates the principles or hypotheses that offer the best justification for the approved practice.

Dr. Freeland's book impresses the editor and will, we are sure, impress the reader as an excellent example of this third method of treating the intricate and important problems of the classroom teacher. His manner of writing the book is itself presumptive evidence that he has something of value to contribute. He has visited thousands of classrooms and studied intimately the work of thousands of teachers. He has tried to

find what good teachers do and how they do it. He has described successful practices vividly and concretely.

The result is a most useful collection of case-studies in the art of teaching; — but it is also something more. As in his earlier book, *Modern Elementary School Practice,* the author is an exponent of ideals. His aim is not merely to describe but to interpret. He hopes that what he has found in good schools and with good teachers can be made an object lesson to other schools and other teachers. But if this is to be done, the virtues must be lifted out of the particular setting in which he found them, and given a wider significance. This is the large task of interpretation, and this the author has accomplished in a peculiarly effective way.

William C. Bagley.

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SWITZERLAND

The children who took part in this project voluntarily came to school early and remained after dismissal. They spent Saturdays in the public library, and when the work was completed they had read ten times as much as was required in the course of study, and had developed an interest in Switzerland that will stay with them through life.

(See Chapters IV, V, XI, and XII)

THE IMPROVEMENT OF TEACHING

CHAPTER I

HOW SUCCESSFUL TEACHERS HAVE BEEN DEVELOPED

Conclusions from Studying Successful Teachers

The Purpose of This Chapter. — In the preface the statement is made that these discussions are based upon a study of teaching, that the work of superior teachers in six different states was studied with the hope of finding common principles that may be adopted by teachers everywhere. One of the most obvious of these principles is that of development. The superior teacher is continually growing. Therefore, the first point of interest for the teacher who desires to improve will, without doubt, be a description of the different factors that influenced the growth of those who became superior.

The Importance of Educational Training. — After making this study, the conclusion that the fine points in good teaching are largely a matter of education followed by practice in application could not be escaped. Intelligence and health were the only factors dependent

upon birth alone, and in the majority of cases the element of health was dependent largely upon training. There are natural variations in the capacity to develop teaching ability; the parental instinct is stronger in some than in others and there are those who enjoy teaching more than others; but it is safe to predict that one who relies upon his natural advantages is likely to fail in his work if he attempts without educational training to teach in the schools of to-day.

Probably the best proof of the fact that successful teachers are developed for the most part rather than "born" is furnished by a group of several hundred who were studied to discover causes of success or failure. When from this group all who showed the slightest evidence of lacking in intelligence were excluded, the great majority still remained. To some of these intelligence tests were given, and a number of exceptionally high scores were made.

Why did many of these capable persons succeed as teachers while others failed? Why were some found teaching in a superior way while others taught in a mechanical, traditional fashion? In almost every case it was found that the possession of knowledge and training by the superior teacher made the difference. Many teachers did not know that new and better ways of teaching had been devised. They had not been convinced that education is being reëvaluated, and that activities once regarded as essential are now being discarded.

In many cases, when suggestions for improvement were properly presented, it took only a short time to bring about an entire reversal of attitude and methods. But, ordinarily, the essential elements of the modern point of view cannot be acquired without studying them, living with them, and working with them for a long while.

Illustrations of Growth and Change. — Those who grow find it advantageous to change. Many make a gradual growth from the first. Some begin to teach without the training necessary for the proper point of view. Many of these report that they have been awakened by reading, by going to school, or through contact with persons who have studied educational problems. In every case the result is renewed interest in life and in daily work. The zeal for self-reform and the realization that teaching is replete with interesting problems usually was enough to make them enthusiastic in their work.

Among elementary-school teachers there are two types in the group rated superior: (1) the type that experiences new vision after a few years of doubtful experience; and (2) the type that makes a sure growth from the beginning which results from the right kind of training followed by stimulating environment while teaching.

Illustration of Type I. — Teacher in third grade; experience, 17 years; training, normal school graduation. After ten years of experience in which considerable growth

was made, to use her own words, "had settled down without much hope for further growth and little interest in the teaching profession." Was stimulated by a supervisor to take a summer at a State Normal School, followed this by a summer at the State University. Became enthusiastic, read widely, received recognition from the superintendent's office, was advanced twice. Became so active, well read, and cooperative that she was made principal of an elementary school.

Illustration of Type II. — Teacher in fifth grade; experience, 6 years, graduated from a normal school and had attended three summer sessions. Read the latest professional books, was a subscriber to three educational magazines. Did thorough work in the fundamentals, was enthusiastic for problems and projects. Every one who came in contact with her work reported favorably. She reported that she could see herself growing each year and looked back upon her earlier efforts with a great deal of amusement at some of her blunders. Is planning to go to school for special training. She has all the odds in her favor.

Many striking illustrations could be reported. The Dean of the School of Law of one of our great state universities reported that he had been teaching twenty-five years, but that during the last year he had changed his methods of teaching throughout. He illustrates the type of teacher who teaches not only his subject, but establishes in his students the habit of growth which causes them to continue to develop long after they have left his classes, his own changing point of view being the stimulus. He took great pleasure in bringing about the change. Teaching, he reported, seemed

more interesting in the twenty-fifth year than it had at any time before.

Many of the educational principles that this man was learning are now taught to beginners. He is a brilliant man with little or no training in education. At the time he went to school, it was assumed by most persons that such training was unnecessary or impossible.

On our list is the case of the president of a university, who resigned from his position when he realized that education, to the extent that facts can be gathered, should be made a science. After resigning he spent several years in an eastern graduate school studying education. He finally regained practically everything he had lost and was recently honored by being appointed to one of the highest educational positions in the United States. It is not necessary to resign in order to study but the action of this man was eventually vindicated.

Factors in Development

A Long and Gradual Process. — Teachers who become superior show that fifteen and twenty years of experience are not enough to terminate advancement. This factor was rather difficult to study, but out of all those observed it was possible to get a full record of the progress of a fair number of exceptional teachers. Conversation with those who failed was usually enough to show that during the first two years their interest

in improvement had become satisfied. Many of them did their best work the first year they taught.

Three Important Factors. — This gradual advancement went along as the result of several forces. First should be mentioned the desire to improve, a type of *self-supervision* that kept the teacher at work trying to improve himself. Second, was *education* that came from *reading, attendance at schools* during regular sessions or in the summer, from correspondence courses, and from *teachers' institutes.* Third, was contact with *other human beings* who stimulated this desire to do better. Among these were found *superintendents, supervisors, principals, and fellow teachers.*

Progress through Self-Supervision

Practical Application. — Along with self-supervision went the impulse to apply everything good that was learned. One very successful man remarked, when asked to explain his methods of work, "I read and hear of new and better ways of working, and, at the first opportunity, I try them. Of course, I have learned the folly of rushing in headlong, but I love to take chances, especially when there is likelihood of being able to do something in a better way than I have ever done it before. I believe I have formed a habit of working in this way." In other words, *he had formed the habit of growing, of constantly working to improve, and, as he has stated, by so doing became adept in changing his methods and at the same time avoiding trouble.*

The teacher who advances in the profession uses his classroom as a laboratory. He is careful not to compromise in any way his instruction, but it is only through varying his methods of procedure that he is able to advance. Teaching is in this way made as interesting as is investigation in any field of science. Each day holds the possibility of a new discovery.

A word about troubles may not come amiss here. Every one who succeeds to any extent as a teacher will meet his share of trouble. Success in teaching, as well as in every other calling, is largely a matter of learning to meet troubles and gain strength by assimilating them. Overcoming difficulties brings true pleasure. The most successful teachers observed in this study are, from one standpoint, all veterans of many wars. They grew strong and rugged fighting in good causes. They learned to smile in the midst of difficulties that would have disheartened those who were content to remain below them. They also learned how to keep happy and pleasant to others regardless of their personal troubles. Many of the troubles of teachers never happen. One is sure to fail if he allows every small cloud that darkens the horizon to frighten him away when he is doing good work.

A Program for Self-Improvement. — No one improves as he should unless he studies himself constantly. He must learn to criticize himself; to criticize constructively and effectively. Self-improvement is usually helped by working with a definite plan.

Those with broad educations, wide experience, and large contacts, manage to get along without consciously making a program for themselves, but some very successful persons report that they have received a great deal of help from such a scheme. The teacher who would improve must have established purposes with which he lives. He should be moving along in *well-balanced progress.* Lack of ideals, one-sided and unbalanced enthusiasm, and effort without a definite purpose are often causes of lack of advancement on the part of otherwise intelligent teachers.

When one determines where he wants to go and continues along the same lines of progress for a few years, he is sure to be able to show results that are worth while, providing his plan is a good one. Once establishing such a plan, he must be willing to modify it as he grows; but a general scheme that has been well thought out is not likely to be entirely done away with by progress.

From a number of such schemes with the help of classes in supervision, made up mostly of successful superintendents and supervisors, the one that follows was compiled.

Self-Measurement Sheet

Live with this. Measure yourself constantly by it.

1. Progress: Am I improving? Do I plan to improve as the years go by, by reading, going to school, and by learning from my fellow teachers?

2. Modern ideals: Am I making suitable use of:
   a. Application of principles of educational psychology?
   b. Methods of working in the background?
   c. Efficiency that eliminates drudgery?
   d. Problems, projects, and motives?
   e. Application of principles of standardization, use of tests when they may be helpful?

3. Do I give proper attention to each individual and allow him the chance to advance as rapidly as possible?

4. Am I socializing my school and using the social motive to the proper extent?

5. Is my administration satisfactory as to morale, cooperation, attention to details?

6. Am I taking proper hygienic care of the children?

7. What am I doing to connect school life with that outside in:
   a. Recognition of home interests?
   b. Stimulation to better employment of outside time?
   c. Acquaintance with parents?

8. What am I doing to make myself a better teacher:
   a. In personal apearance?
   b. Disposition?
   c. Professional knowledge?
   d. Physical and mental health?
   e. Recreation and enjoyment of life?

9. Results in subject matter.
   a. What definite results am I able to show in each subject I teach?

10. Results aside from subject matter.
   a. What special attitudes am I developing in the children aside from the taught subjects?

How to Use the Self-Measurement Sheet. — This self-measurement sheet has proved popular. It has been mimeographed and presented by superintendents to teachers in several large cities. To many of these teachers the scope of the scheme seemed burdening. But the idea behind it makes it helpful, rather than obnoxious, to the teacher who desires to improve. Few could be expected to approach perfection in all the ten departments. In any case, we have here a scheme that is worthy of years of pleasant effort. No one measures the teacher with this sheet. It merely invites him to measure himself.

In self-improvement the teacher is asked to consider the following points:

1. Remember that self-improvement is one essential element of success.
2. That a well-thought-out scheme is better than sporadic efforts.
3. That it takes time to improve.
4. That time spent in improving oneself brings more pleasure than does merely marking time.
5. That fifteen or even thirty years may be spent with such a scheme as is outlined here without reaching its limits.
6. That a single year of conscientious effort in the use of such a plan has proved sufficient to lift intelligent teachers above the level of average performance.

The self-measurement plan presented is not theo-

retical. It has been used with success by numerous teachers. *The reader is advised to try it.*

Development and Education

Limits for Proper Training in School. — Many are forced by circumstances to teach without proper training. The minimum and maximum training of successful teachers sums up about as follows. For a *minimum*, grade teachers should aim at graduation from a good normal school; high school teachers should not feel content without a bachelor's degree; and those in higher institutions should not think of being satisfied with anything less than a master's degree, while in some departments the doctorate is indispensable. For a *maximum*, grade and high-school teachers may well work for the master's degree. In many cities such work is now recognized by increased salary.

Suggestions Relative to Going to School after Beginning to Teach. — The proper point of view on the question of training is often as valuable as is the training. The high-school teacher without his degree, by recognizing the fact that he needs it and by working accordingly, is frequently superior to many who have it. Too often the individual is content to rest on his laurels. This is why a degree may at times be dangerous. The following brief suggestions seem warranted by the facts observed.

The great majority of successful teachers went to school again after they began to teach. Such school-

ing is rarely regretted. All the saving, planning, and working necessary, when one is engaged in a calling of such limited remuneration as is teaching and at the same time is working to further his education, cannot be pictured as a sinecure. Hard work, good work, work at times against fearful odds, is sure to be his lot. Let all those who cannot enjoy such a life stay away from the teaching profession.

Therefore, the growing teacher should plan from the first, if he does not have the maximum education for his work, to go to school. As a rule, combination of experience and training seems to be more profitable than complete schooling at the beginning. The best scheme seems to be that which begins with the minimum as suggested above and works towards the maximum. The inexperienced youth does not get as much from the final stages in his training as he would get after a few years of experience. Other facts indicate, however, that it is dangerous to put off further schooling too long.

After going out to teach, the mediocre teacher without sufficient training as indicated above does not as a rule renew his attendance at school. He finds numerous "perfectly valid" reasons for his conduct. However, our study has revealed that, ordinarily, money spent for expensive but not practical clothing, at summer resorts, for over-expensive automobiles, and for numerous unnecessary luxuries could have sent through school many teachers who complained

that they could not afford to go. Energy wasted in numerous unwholesome pastimes could have been employed at school with profit to their health by many of those who complained that they "could not stand the strain of attending school and teaching between times." Those who thought they found more profit in engaging in business "on the side" to the neglect of further training frequently awoke to the fact that it is rare indeed that a teacher who intends to remain a teacher can find a side line more profitable than the acquisition of the maximum training for success in his profession.

Development from Reading. — The extent of a teacher's success can usually be predicted if one is acquainted with his reading habits. At any rate those who read nothing or at most the daily newspaper and current popular fiction are likely to remain stationary.

Without further statement of values, taking for granted that they cannot be disputed, a plan of reading for development is given here. A plan is always better than casual effort. Even when it is not followed throughout, the fact that it is in the background usually brings eventual advantage. For years one may fail to live up to his scheme, then finally reach the point where he can realize upon it.

1. *Reading for Professional Development.* — In this connection the teacher should keep in contact with the half-dozen magazines that best represent the

special field in which he is interested. When possible, and with a little effort on the part of some interested person this is usually possible, magazines should be provided for the teachers. When the school board cannot be prevailed upon, the teachers may form a club and get them. The teacher in a one-room rural school will never regret spending a few dollars a year in this way. Sometimes the board is willing to pay as much as the teachers. It is usually found that where there is a will there is a way, and a way that is not burdensome to anyone.

At this writing the following list,[1] although not complete, may prove suggestive. It has been used with success by the teachers of Cleveland and other places.

American School Board Journal. — Bruce Publishing Company, Milwaukee, Wis. Contains articles on administration of schools. Most valuable for the plans and illustrations of new schools which appear in each number. Architects find these helpful.

Education. — Palmer Company, 120 Boylston Street, Boston, Mass. Devoted to the science, art, philosophy, and literature of education.

Educational Administration and Supervision. — Warwick and York, Baltimore, Md. Its field is state and county systems including rural education and educational legislation; city school systems including problems on administration and supervision, and the work of normal schools and teachers' colleges.

[1] Taken from *School Topics*, the school publication of the city of Cleveland, Ohio, and reprinted in the *Elementary School Journal.*

Educational Review. — Educational Review Publishing Co., Garden City, N. Y. Discusses important problems of the day in all fields. Gives the portraits of prominent educators.

Elementary School Journal. — Department of Education, University of Chicago, Chicago, Ill. One of the best educational periodicals devoted to elementary education. Gives practical, definite aid to the teacher. Articles are by authorities and represent forward steps in education.

Journal of Educational Psychology. — Warwick and York, Baltimore, Md. Devoted primarily to the scientific study of problems of learning and teaching. Contains the latest and some of the best available material on educational tests and measurements. Written for the psychologist.

Journal of Educational Research. — Public School Publishing Co., Bloomington, Ill. Official organ of the National Association of Directors of Educational Research. Treats of same subjects as the *Journal of Educational Psychology,* but in a more popular way. Its object is to popularize and make known the problems and results of tests and measurements to teachers and laymen.

Kindergarten and Primary Magazine. — Manistee, Mich. A guidebook in child training. Gives practical hints and definite suggestions for the kindergartner and first-grade teacher. One of the best periodicals of its kind.

Normal Instructor and Primary Plans. — F. A. Owen, Dansville, N. Y. Gives practical suggestions for the first six grades. Contains cut-out figures, a sheet of pictures for picture study, suggestions for holiday decorations, etc. Specially helpful for the teachers in rural schools.

School and Society. — Science Press, Garrison, N. Y. A weekly publication. Interested in all phases of modern education. Always contains some worthwhile contribution from a well-known educator. Has timely notes on current problems.

School Review. — Department of Education, University of Chicago, Chicago, Ill. One of the best periodicals devoted almost entirely to the problems of the high school. A periodical every high-school teacher will be interested in.

Teachers College Record. — Teachers College, Columbia University, N. Y. City. Quarterly publication. Contains articles by authorities on many phases of education.

English Journal. — University of Chicago Press, Chicago, Ill. Although written for the teacher of English, it contains many articles of general interest.

Journal of Geography. — 2249 Calumet Ave., Chicago, Ill. The official organ of the National Council of Geography Teachers.

Journal of Home Economics. — American Home Economics Association, Baltimore, Md. For those interested in homemaking, institution management, and educational work in home economics.

Manual Training Magazine. — Manual Arts Press, Peoria, Ill. Devoted to the manual arts in vocational and general education.

School Arts Magazine. — School Arts Magazine, 26 Foster St., Worcester, Mass. "An illustrated publication for those interested in art and industrial work." Contains many suggestions for the art teacher. Each number is profusely illustrated.

It is interesting to note that, of all those observed and from whom it was possible to get reports, the teacher who made the most progress (promotions, gain in salary, etc.) during the last year spends seventeen dollars a year for educational magazines. It should be added that this is a trivial amount compared to that a carpenter or a painter spends yearly for tools. Many teachers save

at their own expense when they refuse to provide themselves with such tools as the current educational magazines.

As to books, it is always possible to find standard educational treatises at public libraries. In the magazines listed above, advertisements, announcements, and especially book reviews will furnish information on all new educational books. Many teachers have found that their school boards are quite willing to supply professional books. It is a "paying proposition" for a school board to furnish such books when the teachers ask for them. One could not be so sure of the value if the board supplied them without special request from the teachers. A list of books that have proved useful to superior teachers may be found in the appendix of this book. Two plans for professional reading are:

1. The teacher will find it profitable to keep in contact with the writings of leading students of education. Many of the successful teachers on our list report that they take pride in being students of the works of Thorndike, Judd, Dewey, Cubberley, Suzzallo, McMurry, Bagley, Terman, and other educational leaders.

2. Compile a list of subjects upon which the year's reading will focus. At present the list might profitably be made up of such topics as the project method, how to study, mental tests, educational measurements, and studies of the curriculum. It is often well to make one of these the central theme.

2. *Reading for General Development.* — As the teacher grows older he is sure to find his general reading a constant help in the continuance of growth. President Eliot of Harvard placed instructive general reading at the head of the list of factors that make for growth in any occupation. He also stated as his conviction the absolute impossibility of development for all those who did not form this habit. A good plan for general reading is to make a list of books to be read during a year. Then, without allowing it to limit the amount of reading, use it as a guide. With such a list, it has been proved a number of times, one tends to do some regular reading. Otherwise he is likely to have the feeling that he should be doing some developmental reading, that it "would certainly be a good thing," or that he is "getting fearfully behind" in the reading of good literature, but this is about as far as he ever gets. Do not fail to make up lists of books that you intend to read. One man whose instructive reading had played an important part in making him a great educator, reported that he had formed the habit of jotting down in a notebook the title of every worthwhile book he heard of. He used this notebook in making up his reading lists.

The following is a list of books made up at the beginning of the school year and read during the year by a rural-school teacher. She reported that she "would not have missed it for anything." She also said that she was sure that very little reading of this

type would have been done, had she not planned for it. Her year's list, together with her comments upon the different books may prove inspirational.

Life of Lincoln. — Ida M. Tarbell. "Those two volumes show Lincoln as he really was. They picture his struggles against the world and with himself. They have left with me thoughts that are sure to influence my thinking, and possibly my actions, as long as I live."

Fathers and Children. — Turganev. "I gained from this a picture of political life in Russia before the World War, an insight into Russian character, and acquired knowledge of Russia that helped me to understand the life that is lived there. This book has proved an invaluable background for the recent news in which Russia plays so conspicuous a part."

Dame Care. — Suderman. "Gives an idea of the superstition that hedges in the life of the German peasant."

The Unsocial Socialist. — Bernard Shaw. "Shows the difficulty of practicing our political theories. I followed this by reading considerable of Shaw and finally concluded that he was chiefly interested in making money by writing books that would be interesting to idle women of the upper classes." [1]

The Mikado and other plays. — Gilbert and Sullivan.

The Bluebird. — Maeterlinck. "Gave me an insight into Belgian peasant life."

Ghosts and *The Master Builder.* — Ibsen. "One should read some Ibsen. I believe his psychology of life is warped or, at least, based upon too much attention to the terrors of passing middle age."

[1] The reader should keep in mind that these are the comments of a rural-school teacher. They are given to show how her reading influenced her thinking.

Thus Spake Zarathustra. — Nietzsche. "'You say unto me that a good cause halloweth any war, but I say unto you that a good war halloweth any cause.' This sentence is one from Nietzsche that always comes to mind when I hear him mentioned."

She also read some of H. G. Wells, Schopenhauer, Galsworthy, Kipling, and considerable biography. She reports that she could have read many more books than she did. Anyone who will conscientiously try to read a list of books like the above during a school year is very likely to receive so much benefit that he will be sure to plan his reading for each year thereafter. He will grow to expect this as one of the most interesting phases of living; and while he is living in this way, life will be more interesting because such reading is sure to bring development.

If difficulty is found in making out lists, it is easy to get them from librarians, English departments in higher institutions, or from editors of the better magazines. A letter stating who you are, what your education has been, and your desire for reading of the developmental type will usually be sufficient to get several instructive and inspirational lists.

3. *Reading for Recreation.* — In addition to developmental reading the teacher should do some reading of a more recreational type. Stories by Octavus Roy Cohen, Irvin Cobb, George Patullo, and like authors serve this purpose admirably. Light reading should be truly recreational and one should avoid the emotional

and " tragic " unrealities running throughout most of our popular fiction.

Growth from Contact with Others

The Teacher's Relation to His Superiors in Office. — The attitude of the successful teacher towards his superintendent, principal, or supervisor plays an important part in his development. It is always one of coöperation to the fullest extent. One who desires to grow cannot afford to miss the suggestions and criticisms of those who are responsible for one's work.

The unsuccessful teacher is likely to be opposed to anyone who tries to help him. When a mediocre high-school teacher was asked what he thought of his principal, he remarked, " The less seen of him the better." This attitude is common among the failures. However, it is not the policy of this book to discuss destructive elements to any extent. When those in authority are having difficulty, we should try to understand them rather than blind ourselves to their virtues or magnify their faults. *Intelligently loyal followers are very essential to the success of any organization.* No leader can succeed without them.

A word to the principal or supervisor who wishes to help his teachers should be added here. It is the custom of successful school officers to work from the positive and constructive side. They do not focus upon the faults of their teachers. They bring about improvement by picking out strong points and enlarg-

ing upon them until the teacher begins to emphasize this side of his work. Eventually so much time is taken up in working out these good elements that no time is left for disadvantageous work. It is automatically eliminated.

However, the facts show that there is much more need for warning to teachers than to superintendents and principals on this score. The majority of school officers seem willing to work for progress. They are better informed as a whole than are the teachers. Therefore, the teacher who would grow is not likely to be disappointed if he takes the time to understand the ideals of his principal and superintendent. Numerous successful teachers report that they owe much of their progress to the guidance of some person in authority over them.

The Teacher's Relation to His Fellow Teachers. — In his associations with his fellow teachers we again find the successful teacher working to coöperate. Numerous instances could be reported where teachers, when asked to explain where they learned to apply some especially good method, stated that it had come from a fellow teacher. One particular case of a young high-school teacher who showed that she had reached a high state of perfection in applying the problem method stands out prominently; when asked where and how she had learned her method she remarked, "Oh! I learned all I know about this from Miss X, who teaches in the room next to mine. We have been

working on the problem for two years. My associations with her have made my teaching a real pleasure."

It is needless to mention the fact that the teacher who is a failure usually shows the most utter disrespect for the work of his colleagues. In a school where failure was conspicuous a growing teacher who had worked there was asked to mention one characteristic most noticeable about the teachers. Without hesitation he remarked that it was lack of coöperation.

Facts on the Development of Superior Teachers

In conclusion the following data, gathered in a study of the lives of 100 superior teachers, point to the value of development and the necessity of a long period of improvement before full success in teaching may be attained.

Number of superior teachers whose careers were studied	100
Range of experience of superior group	4 to 32 years
Average experience of 24 exceptionally successful	12 years
Experience of 3 most successful	12, 14, and 31 years
Number who have had natural handicaps to fight against, voice, health, peculiarities of personality, uninspiring home surroundings, nationality, etc., any or all of these to the extent that they were constant factors to overcome in the struggle for success	52
Number who attended school after teaching	96

Number who after teaching attended school for one year 68
Number who after teaching attended school for two years or more 17
Number who were subscribers to one or more educational magazines 96
Number who subscribed to three or more educational magazines 22

Summary in Suggestions for Practice

1. Keep in mind that good teaching is largely a matter of *development.* He who fails to grow, who thinks that he is a " natural teacher," " has a knack " for the work, or is satisfied that common sense, intuition, and a knowledge of subject matter are all that is essential, is doomed to failure.

2. Remember that it is possible to grow as long as you teach. Great progress may be made in one year, so much even that this amount of experience may lift a teacher above average performance, but the greatest success comes after years of effort. This fact makes teaching much more interesting than it would otherwise be and indicates that teaching has a real future for all those who teach with the intention of making progress.

3. Do not be afraid to change. Be willing to give new ideas a sympathetic hearing. Do not let trouble frighten you away when you are sure that you are working in the interests of the children and for the betterment of education. Remember that the facts

show a very small percentage of failure on account of too much zeal in applying modern ideas, and that these failures did not come from the zeal or the ideas.

4. *Never forget to draw upon the three great sources of development:* further education from *going to school and from reading;* self-improvement by *constantly working to overcome your own defects;* and the gain that comes from proper *coöperation* with your superintendents, principals, and fellow teachers.

Questions to Emphasize Chief Points in Chapter I

1. What illustration given at the beginning of the chapter and what facts in the table at the close of the chapter indicate that success in teaching is the result of training and development?
2. What does the fact that success in teaching may be developed signify to the beginning teacher? to the teacher of experience?
3. What are the three important factors in the development of success in teaching?
4. How should the teacher look upon trouble and opposition?
5. For how many educational magazines do 10% of the most superior teachers subscribe?
6. Name five good educational magazines.
7. State five of the chief points in the teacher's self-measurement sheet.

Problem Questions Suggested by Chapter I

1. Discuss the fact, as stated here, that the teacher may be developed by his work, considering the fact that many do not grow but become fixed in their ways.
2. Find an article in an educational magazine that contains suggestions that are helpful to you in one of three ways, (*a*) by suggesting devices of value to your teaching, (*b*) by giving you ideas with which you may live and grow, (*c*) by calling your attention to valuable books or scientific studies.

3. Discuss the list of books read by the rural-school teacher and described by her as quoted in this chapter. Can you suggest good additions to her list?

4. Can you think of ways in which supervisors or fellow teachers may be helpful to you?

5. The author took great pleasure in publishing the facts of this chapter because he felt that they revealed a very optimistic outlook in teaching for all those who prepare and plan to make teaching their life work. How do the facts and illustrations in the chapter affect your outlook on teaching?

"Sliding to Third"

The superior teacher knows the values of games of this type and does all he can to foster them. The action illustrated in this picture furnishes training in quick thinking, quick execution of the thought, fine coördination of muscles, and coöperation with team mates.

CHAPTER II

DEVELOPING A POINT OF VIEW

Educational Values

The Child, the Curriculum, and the Teacher. — A broad education and wide experience in the world of affairs are first essentials in the development of a proper point of view on the part of a teacher. When the extent of the good or harm done to the next generation by the attitudes of teachers is considered, the necessity for these two essentials cannot be questioned. The school curriculum is only one of many issues in the education of children. At every step in teaching a specific subject it is essential to have in mind its relation to other subjects. A broad-minded, far-sighted point of view, therefore, is one of the most desirable qualifications of a teacher.

In developing a point of view the teacher is first of all advised to secure as good an education as possible, to read widely, and to make many contacts with life outside the school or teaching profession. In addition a great deal of time should be devoted to thought and study on the functions of education. The mind of the growing teacher may with profit be occupied by

the following questions: "What is it all about?" "Why should we do as we are doing in education?" "What are the comparative values of different possible ways of spending a school hour, day, or year?"

The children should receive first place in the thoughts of the teacher. Their welfare is the basic issue in all school work. In the teaching of any subject the results must be measured in the light of the "total effect" upon the different members of the class. Not only the amount of the subject that the children have learned is important, but also the habits formed, the attitude toward the subject, the interest in work, the outlook of each child, and numerous other results. The teacher must look upon teaching as a process involving first the children; second, the curriculum in general; and third, the immediate contact with the children in teaching some specific phase of the curriculum. Superior teachers were observed to be especially strong in viewing their daily problems of teaching in the light of the larger issues involved. An ordinary act, an apparently incidental emphasis, an attitude, casual advice to a child, the selection of the next day's lesson, and, in truth, hundreds of seemingly insignificant activities were in reality important elements of a whole. In superior teaching selection and emphasis were in evidence at every step.

Viewing the Curriculum as a Whole. — It is necessary, first of all, for the teacher to develop a con-

ception of the entire curriculum. The relation of each part to every other part and the amount of time that is to be devoted to different types of work should be understood. Even though the plan be more or less imperfect, — and no one has as yet been able to plan a perfect curriculum, — growth in this direction usually results when an honest effort is made to understand the entire educational process. The fine *coöperation* of teachers who try to keep in mind these larger issues is always appreciated by progressive principals and superintendents.

The Four Basic Life Values

In order of their importance the four basic elements of complete education are the *health*, the *social-civic*, the *vocational-economic*, and the *culture-recreational*. These are not new to the student of education, but they will be discussed here from the standpoint of the development of their use in the practice of successful teachers. Too often the teacher complains that this is a matter out of his reach. He contends that he must follow his course of study. But in the work of superior teachers the realization of these values is a matter of daily practice, while failure to realize them is frequently due to lack of comprehension by the teacher rather than an antiquated course of study.

Recognizing the Health Value. — In this connection the following practices have been observed in modern schools:

1. *Emphasizing the Necessity of Outdoor Activities at Recess.* — It should be understood by every teacher that the recess is a most important part of school work. It is provided in order to secure relaxation of overwrought nerves, free flow of blood and lymph which have become stagnated by hours of sitting, the filling of all the cells of the body with oxygen the supply of which is always low after an hour or two of inside intellectual work, the stretching of growing muscles and tissues, the prevention of deformities which constant inside work would be likely to develop, and a large number of factors aside from health. The teacher who has thought of these values, who keeps them in mind in daily practice, is sure to have a wholesome influence. However, numerous visits to schools in several states have given convincing evidence that many teachers force slow children to finish work at recess, require nervous children to sit inside for punishment, prohibit "bad" children from leaving the room at recess, and often omit the recess period in order to dismiss early. All that is necessary to prevent intelligent teachers from making such a mistake is that they form the habit of thinking of the values outlined above.

2. *All Rules and Regulations Should Foster Health.* — Teachers who have considered the health value and the necessity for stressing health results make all school regulations accord with the health of growing children. A type of "order" is soon developed in

each new class which allows a great deal of freedom. Children may leave the room at will, talk to each other when necessary, and, in fact, act in a normal way which prevents unhygienic nervous strain. They also learn that it is much more enjoyable to be trusted than it is to transgress. On the other hand when the teacher's zeal for school work, punctuality, and the like, causes children to form the habit of eating hurriedly, to lose sleep, or to retain poisons which should have been eliminated from the system, he is failing in the one big essential element of education, in the place where he must secure results if any of the rest of his work is to be of any value. In every assignment, in all suggestions, in all requirements, discipline, and methods of teaching the health factor is always present. A teacher who works for better health conditions may accomplish a great deal. Under the most hygienic conditions and with the best of equipment it is possible for a teacher to injure both physical and mental health. It would be impossible for the teacher to make himself too well informed upon the health question. Only the most exceptional teacher fully realizes the health value in all of the everyday school activities.

Vocational-Economic Results from Everyday Work. — It is essential that the American school emphasize the earning and conserving elements of daily life in all its work. The teacher should be willing to converse with boys and girls upon possible future voca-

tions. He must inform himself upon the vocations so that he can furnish proper advice. It is a fact that children constantly turn to their teachers for guidance of this sort. Thus in geography, history, hygiene, arithmetic, English, science, or the subjects more nearly vocational such as mechanics, commercial branches, and home economics, the vocational-economic element is constantly coming up. Brewer [1] has devoted a book to the discussion of how the teacher may help children in intelligently choosing vocations by dealing properly with this factor of education as it appears in the different subjects.

In conservation and saving, the daily lessons of the public school may prove productive of valuable results. America is now regarded as the land where waste reigns supreme. Education as to the needs for conservation is the only plan we at present know of to overcome the destruction of our forests, fisheries, farms, reckless waste of human energy and lives, and extravagance in the thousands of small items of daily life. Education must save us from wasting our heritage.

It would be well for the school to study the trend of modern English fiction. Writers like Wells, Shaw, Galsworthy, and Kipling are changing the English ideal from one of indifference and idleness to one of conservation and work. In the same way the con-

[1] John M. Brewer — *Vocational-Guidance Movement.* The Macmillan Company, 1918.

versations with a superior teacher are bound to have their effect upon the future activities of children. The new ideal must be to educate for a life of activity, work, and conservation. We must train our children to enjoy true happiness by doing good work and by the prevention of needless destruction. By recognizing as a constant one in school work, the economic element, the productive-conservative factor that is a part of all activity, the teacher does his part in helping to realize this aim in education. Arithmetic has long been taught from this standpoint. History is fast being focused upon true values of human progress, of which conservation is one, rather than upon wars and political intrigue. Geography is being made far more worth while by emphasis upon productive and conservational factors in the lives of peoples now living, rather than memorizing useless facts about them. The conservation of our national reserves can be made to play a large part in this subject.

Emphasizing Social-Civic Results. — The public school teacher's work is supported by public taxation. The state and the community pay for education because it is supposed to develop better citizens. There is an extensive literature upon this subject. For a background the average teacher would probably derive most good from reading in Cubberley's *Education in the United States* about the different battles fought in the cause of public education.[1]

[1] Houghton Mifflin Co., 1919.

All the school subjects contain social-civic values. English, history, and geography should be taught largely from this point of view. The superior teacher emphasizes the significance of historical events to the community, state, and nation as they exist *now*. In geography facts may be related to the social problems of the child's daily life. English and literature have social values and compositions may deal with problems of this nature. Arithmetic, botany, biology, general science, home economics, and the modern languages all contain elements that are social-civic. No one of these subjects is taught as it should be unless these values are realized. Consider the following illustration in botany:

In connection with the regular work in botany of Lincoln High School (Seattle) with the support and coöperation of students and faculty as an issue in the study of the plants of the home region, a definite effort was made to produce a large surplus of vegetable and flower seedlings for free distribution throughout the school system. The purpose was to stimulate garden work and production and to develop coöperation.

In the spring of 1917, over 75,000 seedlings of Early Jersey Wakefield cabbages, Danish Ball Head cabbage, Brussels sprouts, Curly kale, endive, Black Seeded Simpson lettuce, Grand Rapids lettuce, Hanson lettuce, Swiss chard, White Plume celery, and Earliana tomatoes were distributed. In the spring of 1918, 85,000 of this same list of plants were developed, this figure including 10,000 flower seedlings of forty different varieties.

These plants were distributed among the city schools.

The cafeterias and the domestic science departments were provided with thousands of lettuce plants, endive, turnip greens, spinach, and radishes.

The classes, with the help of the school, gathered a large quantity of foxglove leaves. These were cured by the classes and sent to the Pharmacy department of the University of Washington to be made into the drug digitalis.

The classes have made some effort to provide the office and school at large with ornamental flowering plants. Hundreds of bulbous flowering plants, geraniums, coleus, and cineraria have been sent to rooms, to class teachers, and to the homes of students, and when possible, a blossoming plant has been kept on the desk of each student in the botany classes. As a result dozens of students have been influenced to develop plants for the home. In appreciation some high school student penned this poem.

THE NARCISSUS

(*In honor of the gifts of the botany classes*)

Some day this fragrant flower
May turn our thoughts away,
And for a fleeting hour
Rest our hearts on our way.
A memory softly stealing
From days of long ago.
These kind thoughts each are feeling
The others seldom know.
Such thoughts were sent from heaven
To guide a weary world,
And some kind thought is given
In each white bud uncurled.

Emphasizing Culture-Recreational Elements. — One of the chief claims for education in the past has been

that it adds " culture " to those who undergo it. The term has been so loosely used that it has little specific meaning. In considering culture the teacher must keep in mind its modern significance freed from the traditional load it has carried up to this time. Thorndike has helped the situation by defining culture in a way that makes it tangible as well as useful in everyday life. His statement may be modified to read as follows: *Culture is the ability to enjoy and appreciate the world in which we live — including books, people, sports, science, and everything of interest or value to the race — without taking away from the enjoyment of others.* Culture is thus truly recreational; but when the two ideas are combined we have a condition that gives wide opportunity for education. By adding recreation to culture it is made practical, while at the same time recreation is elevated.

In their daily work teachers find hundreds of opportunities to emphasize culture-recreational elements. When a child does not appreciate something that true knowledge would lead him to enjoy, the opportunity is afforded to start a train of thought in his mind that may lead to a better understanding of values. When, through contact with teachers who teach in such a manner, the child's ideas have been enriched and broadened, his ability to appreciate and enjoy life is increased proportionately.

In teaching literature, for example, the successful teacher so presents facts, fiction, and poetry as to

lead the children to want more. An important test of the work in literature is the amount and type of reading done by a class after the course is completed. The desire for a better type of book is worth more than all the required reading possible in one term, for the development of independent reading of good literature brings about results that go through life. The enjoyment and appreciation of life of such a reader increase with the years.

Every subject has its culture-recreational side. *Arithmetic* should be so taught that children will appreciate and enjoy it. They should be brought to the place, if possible, where they will not feel satisfied until they have made their own calculations in every transaction in which their rights are involved, such as making change, bills rendered, accounts, payment for services, and the like. Too often we find an apathy towards calculation in matters where it is very necessary. People who dislike mathematics — often because their school experiences have been unfortunate and not because they are deficient in the subject — allow the banks to take all the responsibility of keeping their accounts straight; the groceryman is trusted implicitly to keep their monthly accounts; laborers who work for them are allowed to do all the calculating; and they frequently pocket their change without counting it because they so dislike anything "mathematical." Here is a place where culture and utility become one. When a man has learned to dislike

mathematics to the extent that he joins the large group described above, his lack of appreciation and enjoyment interferes with his ability to get on in the world.

Another illustration from the botany class already mentioned in this chapter may help to indicate how the culture-recreational element is stressed in modern science teaching. In the work at school flower baskets were planned. In these baskets the following features were studied: arrangement of moss and roots so that the plants would live while watering could be put off for a maximum time, a desirable combination of plants for a basket from the standpoint of beauty, ability to thrive under the same conditions, and approximately the same length of life, same time for blossoming, etc.

After making a careful study of plants, their roots, blossoms, habitats, etc., and after successfully assembling groups into baskets, *different members of the class were given baskets to take home and care for.* This final stroke added full participation and gave true culture-recreational training. At different times during the rest of the course the development of plants in the different baskets was referred to.

The Four Factors Often Overlap. — As may be seen from the foregoing discussion, the four elemental educational values frequently overlap. Some writers combine them all into what they term *social*, meaning of use to society or of human value. From Spencer to Bobbit [1] and Bonser [2] there has been little or no addition to the fundamental concepts. We have gained a great deal, however, in our understanding of the values laid

[1] *The Curriculum*, Houghton Mifflin, 1919.

[2] *The Elementary School Curriculum*, Macmillan, 1920.

down by Spencer, in the widespread use of these values, and in scientific demonstration of just what may be selected as valuable elements of the different subjects.

Method Important in Emphasizing Values. — It should not be forgotten that the method of teaching is a factor here. Botany is not always as valuable as it appeared to be in the course taken for illustration. A subject may have all the values and still be worthless because the teacher does not know how to bring the valuable parts to the front. Any teacher can well afford to spend a great deal of time studying ways and means of properly emphasizing the values he is sure his subject contains. It is one thing to know these values and still another to cause them to be realized in the lives of the children.

An Ideal Curriculum in the Background

Some teachers begin with the curriculum in general and develop a scheme of values. The results are good because the teacher's reactions are well thought out. He has an attitude toward every subject and a clear idea of the results that should be realized. Well-educated teachers are in demand today because an appreciative understanding of all the subjects is essential to proper selection and emphasis in any one.

The teacher of French, for example, should know enough about botany to appreciate modern instruction like that described for illustration in this chapter. Further, the French teacher must know enough to

advise most children not to take French. He must realize that there is a limited use for his subject, and that those who will use it get along far better in a small class than in a large class. A successful teacher is not measured by the enthusiasm he shows in advertising his subject. He desires in his classes only those who need his work.

A Provisional Ideal Scheme. — To help the teacher, principal, or superintendent comprehend the significance of a full scheme of education based upon true values the following outline is given. This scheme has been submitted to teachers, superintendents, and principals on numerous occasions. It was built up by superintendents and principals who attended university classes in the " Improvement of Teaching " during the four years that this course has been offered at the University of Washington. A large number of superintendents report that they have used it in a more or less modified form. The scheme is submitted as something definite and tangible, practical enough to be of assistance in curriculum making, ideal enough to look forward to for some time, and well rounded enough to be stimulating.

ILLUSTRATIVE CURRICULUM FOR 5 DAYS A WEEK

Grade	Health Education	Hours a Week	Economic Education	Hours a Week	Social Education	Hours a Week	Recreational Education	Hours a Week	Hours Total
I	Play	8	Arithmetic	0	Civics and history	2	Play		
	Corrective exercises	1	Reading	2			Nature study	2	
	Dancing and rhythm	1	Writing	1	Play		Work periods		
	Thorough physical examination		Spelling	1	Talks on hygiene		Story-telling	2	
			Work periods	1	Social adjustments in and out of classes		Music	1	
							Reading		
	Total	10	Total	5	Total	2	Total	5	22
II	Play	8	Arithmetic	1	Civics and history	2	Nature study	2	
	Corrective exercises	1	Reading	2			Story-telling	1	
	Dancing and rhythm	1	Writing	1	Hygiene		Music	1	
	Thorough physical examination		Spelling	1	Play		Play		
			Handwork	1	Social adjustments in and out of classes all day		Handwork		
			Story-telling				Reading		
	Personal hygiene	1							
	Total	11	Total	6	Total	2	Total	4	23

ILLUSTRATIVE CURRICULUM FOR 5 DAYS A WEEK (*Continued*)

Grade	Health Education	Hours a Week	Economic Education	Hours a Week	Social Education	Hours a Week	Recreational Education	Hours a Week	Hours Total
III	Play	8	Arithmetic	1	Civics, history, and geography	3	Nature study including home and school gardens	3	
	Gymnastic drill for boys	2	English (reading)	4	Hygiene		Music	2	
	Folk and æsthetic dancing for girls	2	Spelling	1	Play		English		
	Thorough physical examination		Handwork	1	Social adjustments in and out of classes all day		Play		
	Hygiene	1	Writing	1	Study		Handwork		
					Nature study				
					Hygiene				
	Total	11	Total	8	Total	3	Total	5	27
IV	Play	8	Arithmetic	1½	Civics, history, and geography	3	Nature study	3	
	Gymnastic drill for boys	2	English	3	Hygiene		Music	2	
	Folk and æsthetic dancing for girls	2	Spelling	1	Play		English		
	Hygiene (physical examination; corrective exercises)	1	Handwork	1	Social adjustments in and out of classes all day		Play		
			Writing	1			Handwork		
			Study	2½					
			Nature study and gardening						
	Total	11	Total	10	Total	3	Total	5	29

V	Play	8	Arithmetic	1½	Civics, history, and geography	4	Nature study and gardening	2	
	Military drill for boys	2	English	3	Hygiene		Music	2	
	Folk and æsthetic dancing for girls	2	Spelling	1	Play		English		
			Woodwork for boys	2	Social adjustments in and out of classes all day		Play		
	Hygiene (physical examination; corrective exercises where needed)	1	Home arts for girls	2½			Woodwork		
			Study	1			Home arts		
			Writing for those who need it						
	Total	11	Total	11	Total	4	Total	4	30
VI	Same Program of Studies as for V								30

ILLUSTRATIVE CURRICULUM FOR 5 DAYS A WEEK (*Continued*)

Grade	Health Education	Hours a Week	Economic Education	Hours a Week	Social Education	Hours a Week	Recreational Education	Hours a Week	Hours Total
VII	Play (football, baseball, track, tennis; properly selected games for boys and girls)	5	Arithmetic	2	Civics and history	4	General Science	(2)	
	Corrective exercises		English	3	Hygiene		Modern language	(2)	
	Folk and æsthetic dancing for girls	4	Five hours from the following:	5	Play		Music	(2)	
	Gymnasium for boys	4	For boys:		Social organization, — either clubs or school affairs	1	Play		
	Physical examination		Mechanics	$2\frac{1}{2}$			Modern language may be assigned to a child as one of his 5 hrs. under Econ. Ed.		
	Hygiene for girls	2	Woodwork	$2\frac{1}{2}$					
	Hygiene for boys	2	Commercial printing	$2\frac{1}{2}$					
	Total	11	Art	$2\frac{1}{2}$					
			For girls:						
			Home economics	$2\frac{1}{2}$					
			Art	$2\frac{1}{2}$					
			Commercial education	$2\frac{1}{2}$					
			Total	10	Total	5	Total	4	30

VIII	Same Program of Studies as for VII		English	3	Civics and		Botany	(2½)	
			Mathematics	2	History	4	Modern language	(2½)	
			Seven hours from the program as given under VII		Hygiene		Music	(2½)	
					Play		Play		
			Study	5	Social Ad. Social organization either clubs or school affairs	1			
	Total	11	Total	10	Total	5	Total	4	30

COMPARISON OF THE TIME ALLOTMENTS IN NUMBER OF MINUTES PER WEEK BY GRADES IN THE SEATTLE SCHOOLS WITH THE AVERAGE ALLOTMENTS IN 49 LARGE CITIES

Subjects Taught		Grade								
		I	II	III	IV	V	VI	VII	VIII	Total
Language	Cities	130	141	167	176	187	194	207	215	1417
	Seattle	0	50	75	110	200	225	225	225	1110
Reading	Cities	421	404	332	245	182	141	142	136	2003
	Seattle	600	525	425	310	135	135	225	212	2567
Spelling	Cities	39	82	87	85	82	78	72	73	598
	Seattle	0	75	100	100	60	60	60	60	515
Penmanship	Cities	67	72	77	78	77	75	63	58	567
	Seattle	50	75	75	75	60	60	60	60	515
Arithmetic	Cities	64	143	193	206	211	211	212	211	1451
	Seattle	0	150	250	240	225	255	250	200	1570
History	Cities	17	19	30	54	84	97	148	167	616
	Seattle	100	30	50	75	135	135	250	125	900
Civics	Cities	9	12	11	12	14	15	23	27	123
	Seattle	0	30	25	25	35	30	0	75	220
Geography	Cities	11	14	59	137	156	162	137	84	760
	Seattle	0	0	50	100	180	180	0	112	622
Science	Cities	22	23	23	23	21	21	22	26	181
	Seattle	38	20	25	25	25	40	40	40	253
Hygiene	Cities	16	16	18	22	25	27	25	22	173
	Seattle	37	20	25	25	27	25	35	35	227
Physical Training	Cities	90	87	89	90	90	89	98	104	737
	Seattle	0	0	50	50	50	50	50	50	300
Supervised Play	Cities	22	19	18	14	16	16	16	15	136
	Seattle	150	150	100	50	50	50	50	50	650
Recess	Cities	105	106	106	96	91	90	84	74	752
	Seattle	100	100	100	100	100	100	100	100	800
Industrial Arts	Cities	22	22	25	30	50	65	90	106	410
	Seattle	25	50	63	60	60	0	0	0	258
Drawing	Cities	87	88	87	86	82	75	77	79	660
	Seattle	75	50	63	75	75	75	75	75	563
Music	Cities	71	74	74	77	76	74	70	75	591
	Seattle	75	75	75	80	80	80	80	80	625
Miscellaneous	Cities	97	93	99	97	99	98	88	87	758
	Seattle	0	0	0	50	50	50	50	50	250

Another exercise that is likely to stimulate thought is to compare curricula in the local schools with standard practices in other schools. Dr. Fred C. Ayer in a partial survey of the Seattle schools compiled the foregoing table. It would be wrong to assume that Seattle should modify its program in order to make it like the average in other cities, but the differences are well worth knowing and considering. School officers and teachers who are acquainted with data like those set forth in this table are likely to have a broader point of view than they could have without such comparative data. A study of some of the better school surveys is likely to help materially in the development of a point of view.

Summary in Suggestions for Practice

1. Do everything you can to *broaden your point of view.* Schooling, study, reading, and experience in the world of affairs are all valuable in the making of better teachers.

2. Read and *study the values of education* until you have developed at least a partial view of the entire educational process. Be able to *sense the curriculum as a whole* back of every subject you teach.

3. Plan your work with the idea of realizing the four basic values of education. At every step foster health, emphasize vocational-economic values, stress social-civic elements, and make every subject truly culture-recreational.

4. Keep in mind the fact that the hundreds of small acts that make up the work of a teacher during a school day may express all the educational values and be controlled by the larger point of view; that *the attitude of the teacher is even more powerful than the course of study or the textbook.*

Questions to Emphasize Chief Points in Chapter II

1. What two factors are fundamental to the proper point of view on the part of the teacher?
2. What questions should the teacher keep before him?
3. In what ways do the apparently insignificant actions of a teacher reveal his point of view?
4. What are the four basic educational values that should underlie all teaching?
5. State five ways in which a recess is valuable from the health standpoint.
6. How may rules and regulations foster or interfere with health?
7. Describe the teaching of botany from the social-civic standpoint.
8. Define "culture."
9. In what way are the methods of the teacher important in realizing the large educational values?

Problems for Discussion Suggested by Chapter II

1. Describe a teacher who has taught you whom you remember on account of his far-sighted attitude.
2. Describe one who overemphasized unimportant factors and neglected larger issues.
3. Why may it be said that health should be given more attention in daily school activities?
4. Why is it better to have some relaxation at recess on a rainy day rather than do without the recess and dismiss early?

5. In California the school law requires that no child be kept in school at noon, that any child kept in at recess must be excused immediately afterwards and that no child be kept in school over six hours a day. California legislation has been directed by a strong state superintendent and well-trained commissioners. Why did they think it necessary to secure such legislation?

6. Consider the four basic values outlined in this chapter. Can you think of a value not included? Is each of the four of basic importance?

7. Describe the teaching of another subject in a way to emphasize cultural values to the same extent that they were emphasized in the botany class where flower baskets were made a central problem.

8. Make a complete ideal curriculum for the eight grades, modifying the one given for illustration in this chapter in any way that you think best. Defend your modifications.

CHAPTER III

THE INFLUENCE OF EDUCATIONAL PSYCHOLOGY

Educational Psychology in School Practice

How Superior Teachers View the Subject. — One of the gratifying results of this study was the discovery that educational psychology is influencing the work of superior teachers to a greater extent than the most ardent enthusiasts for the subject could hope for when we realize that it is still in the first stages of development and organization. *Practically every teacher in the superior group made constant use of a background of educational psychology.* This background, while not in evidence in furnishing finished devices for classroom practice, seemed to play a part in every phase of teaching. The far-sighted knowing attitude of the superior teacher was based upon a study of original nature, a consciousness of the problems involved in the learning process, the realization of how children may differ, and a knowledge of the different ways in which they may be alike. It seems that the superior group began their study of educational psychology in school and continued to read it and apply it while teaching. This resulted in the gradual development of the valu-

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A number of children may be in action at once in a good project recitation.

able background that made the difference between superior and average teaching apparent even in the most ordinary circumstances. It might be well to mention here that in contrast to this attitude of the superior teacher those who were not succeeding reported that they saw little or no value in this subject.

It will be possible to discuss only one phase of educational psychology here. The specific applications of some of the principles of learning will be considered as illustrative of the use of the entire subject in the improvement of teaching. The teacher who would grow is advised to prepare himself in this field, to keep its problems before him. Eventually they will help him to become an *educational thinker*, as well as make for a wholesome influence in all his teaching.

The Elements of Learning

Thorndike's Laws of Learning. — Although many teachers understand to a certain extent Thorndike's three laws of learning, only the most successful fully realize them in practice. It is one thing to know a rule or a law, but to put it into practice is another. The ability to see a situation in the light of a scientific truth is very rare. There are grades of ability in this matter. One teacher may apply the laws of learning to several situations and fail entirely to see their connection in similar cases.

In practice, the three fundamental laws of learning should always be combined. It is just here that the

superior teacher excels. Stated for application in the schoolroom, the three laws combine as follows: When the nervous system is ready to act, use and pleasure are more possible as well as most effective; use increases ability and disuse decreases ability; but satisfaction must be added to use to make it effective, while the addition of annoyance makes use ineffective and often destructive. We here have the three laws of readiness, exercise, and effect. In successful learning this combination is essential. Errors frequently come from applying the laws separately.

Illustrations of the Application of the Laws of Learning. — The best method of discussing the application of these laws in their combined form is through illustrations from successful practice.

Reading. — In a sixth grade a book club was formed. The children discussed the values of books and were stimulated to read them independently in order to improve themselves as well as bring valuable information to the club meetings. This club stimulated the application of all the laws, but first note the law of *readiness*. Every child who entered into the spirit of the club was ready and anxious to read both the required and other books. Observation of the class furnished convincing evidence that they were eager to work.

Now a poor teacher would have allowed such a club to drag along for a while, and, on account of his inability to adjust to the nature of child learning, it would have probably disbanded within a few weeks. But the teacher in this case knew that his main work was yet to be done. He must see that these eager children were supplied with work. He must have plenty of books on hand to suggest. He must be ready

with his own careful preparation in order to supply proper books to the children. The work of this club for a period of months furnished *exercise*. The teacher saw that the functions he desired to fix were exercised. And he did his best to see that other functions did not receive exercise.

Lastly pleasure and pain were used to bring about the desired *effects*. It was realized that the performances of the children would be far below the level of the teacher's ideal. Therefore, when a child made the proper *attempt* to express himself, he was encouraged. The attitude of the teacher, the recognition of the class, open statements of praise, private conversations with the child in question, and numerous other means were used to bring about pleasant associations in the child's mind with the attempt he had made. Each child was given a task in which, if he tried, he was likely to succeed to the extent that the results would be pleasant.

In contrast to this illustration of the combined application of the three laws, let us consider some cases where failure resulted from partial application. The most common case is the neglect of opportunities for exercise after readiness has been developed.

Failure in Student Self-Discipline. — A principal of an elementary school in a large city decided to utilize the children in discipline as well as develop a social consciousness in his school and derive other benefits that go with such work when well conducted. He made a very good plan. The children elected officers who were to organize the playground. These officers were helped by the teachers, and every one in the school was ready to develop a system of children's organizations. But the principal after a week or two paid no more attention to it. The children soon lost interest. They were

not able of themselves to carry on such a scheme. It "died a natural death," as one boy was heard to remark.

Now the conspicuous thing here was what followed. The discipline of this school became far worse than it was before the plan just described was started. The children had been made ready to grow and develop through proper exercise. Through the inertia of the principal their *readiness* was not taken advantage of. The result was worse than it would have been had no such scheme been planned.

Difficulty in a University Class. — In a summer term a very attractive course was announced and described. A large class was the result. They came ready and eager to work. But the teacher was not ready for them. He did not have his references organized and located. Exercise for the class was lacking, but the evil results were not limited to this. The students went away from the school very much disappointed; their ideas were not enlarged or refined; and many had the notion that pedagogy is a farce. By getting his class ready and then not furnishing the proper exercise, this teacher not only injured the students but also the cause he was supposed to represent.

Readiness and Exercise without Satisfaction. — When tests are given, there should always be some discussion of the work with the children as soon as possible after the test. The child should not be allowed to look at his grade and then discard his paper. The work should be gone over and analyzed so that each child may see what part of his work brought the satisfaction of a good mark and what part brought the annoyance of a bad mark. He should also analyze his work so that he will know *what action to avoid in order to escape pain in the future.* Such illustrations are common in every school.

These few illustrations may serve to explain a situation which must be met in every case of learning. Suc-

cess is much more likely to crown the teacher's work if he utilizes intelligently the laws of *readiness*, *exercise*, and *effect* in their combined form in all his daily work. In fact, a helpful discussion of these three laws and their implications for practice could well take up the space of a book.

The Problem of Speed and Quality

The Relationship between Speed and Quality. — In arithmetic, reading, typewriting, speaking, and similar activities, when an ordinary test is given and hurry and worry are not suggested, the more rapid worker is usually the more accurate. But there are many factors in training and learning that combine to rob this rule of its simplicity. When the rapid worker tries to work more rapidly, he soon reaches a place where his speed interferes with his accuracy, and in many subjects accuracy may be increased by working more slowly.

Why is it that fast workers as a rule do better work than slow workers? The fundamental reason lies in the fact that speed and accuracy are attributes of vitality and intelligence. An intelligent child who is in good health will do a better piece of work in both quality and quantity than one who is unintelligent or in poor health. Another factor is that of physical and mental coördination. When the reader retards his rate to the extent that all of his mental powers are not used in proper proportion, more or less mental

wandering may take place during the reading. Also when one spends too much time on the details of a book the important elements are likely to be lost. When one hesitates too long in the addition of a column, the factors that must be retained for the final sum may be forgotten; and in writing one may lose style and character by taking the time to "draw" each letter.

On the other hand, too much speed is sure to injure accuracy. One could read so rapidly that he would get little of the thought. If accuracy were entirely ignored, high speed in addition would be possible for every one. These facts about too much speed have in the past caused an overemphasis upon slow work. The old-time teacher did not know, what modern scientific investigation has demonstrated, that slow work does not insure better quality. *There seems to be an optimum speed for every worker in every subject. This speed is accompanied by optimum quality. Also, it has been demonstrated that most persons work at a rate slower than their optimum.* They thus lose in both quality and quantity of output by not undergoing the training that would bring them to their best.

Values of Speed and Quality. — It would not be accurate to say that speed is just as important as accuracy, but it is true that each has a value in everything we do. The average teacher is sure to note that things may be done too rapidly. It is hard to convince him that it is possible to overdo from the

standpoint of quality. For example, when writing is readily legible, time spent upon improving its quality could be devoted to something more profitable.

The true values of both speed and accuracy (under accuracy one might also include quality in penmanship, comprehension in reading, etc.) are based upon two factors in every subject. First, *the rate and the accuracy demanded in satisfactory performance.* In telegraphy, for example, there is what is called the "main-line rate" and accompanying it must be a quality legible to main-line operators. In most subjects this question is not so simple, and it becomes more complex when the teacher must apply it to individuals who are going into widely different occupations. How rapidly and accurately should one be able to add before his training may be considered satisfactory? The question is a difficult one and at this writing has not been answered. The second determining factor is human capacity. The *law of diminishing returns*, so characterized by Thorndike, must govern here. When the training of the individual has reached the point where *too much time and energy are required for further improvement, continued effort becomes a waste.* Thus, the objective value of speed or accuracy and the ability of the learner to increase either must both be considered in judging which type of training will be more profitable or whether any training is necessary.

Training to Improve Speed and Quality. — From the standpoint of training, speed and quality are

separate functions. Thorndike [1] has noted in a large number of the practice experiments that speed was increased without any loss in quality. Out of about every one hundred scientific experiments published during the past ten years, only one or two report gains in both speed and quality. All found that practice was likely to increase speed, but it was always found difficult to improve quality. Judd [2] found that emphasis upon speed in silent reading often decreased comprehension. It was found at the University of Washington that either speed or quality could be increased to the detriment of the other. It was also found that it was possible to increase both at the same time if proper attention were given to the factors involved in each.

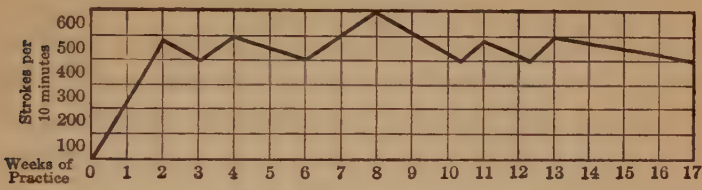
Problems of Initial and Later Learning

Some Differences between Initial and Later Learning. — When a child or an adult undergoes training in order to improve his ability in some function, he is certain to go through two distinct stages if the work is continued long enough. The first or initial stage is rather simple. Here the task is usually interesting. Improvement is likely to go on rapidly, and both teacher and learner are sure to be enthusiastic about

[1] *Educational Psychology.* Teachers College, New York City, 1914, vol ii.

[2] Charles H. Judd — *Reading: Its Nature and Development.* Chicago University Press.

the benefits of practice. Soon, however, interest begins to wane, and improvement may slow down, cease, or even change to an apparent daily loss in ability. The following curve shows these stages:



Studies of Child Learning Confined to the Initial Stage. — Most of the studies of child learning that have been reported to date are investigations of learning which was of short duration. Some that are quoted widely,[1] as Kirby, Brown, and Phillips, extended at the most over a total time of only a few hours. The exceptional results exhibited by such writers is one of the marks of this initial stage. They did not continue their work long enough to strike the bumps and pitfalls that were undoubtedly waiting for them further on. The teacher who reads the literature which shows such remarkable gains from practice (and usually practice of the most ordinary sort) often becomes discouraged because he does not find in his own classes gains that could be compared with those reported in experimental work.

Improvement in later learning is more difficult. Interest is harder to generate. The ordinary person

[1] Reported in Thorndike's *Educational Psychology*, vol. ii.

never goes beyond the initial stage unless he comes under the influence of a teacher who understands training or is subjected to unusual pressure. *The superior teacher has developed ways and means of dealing with children and subjects in the later stages of learning. This is an important factor in his superiority.* The work of training children in the schoolroom is much more difficult than the experimental literature has thus far indicated, and successful teachers have tried to meet this situation. Thorndike has called attention to this difference between work in the school and that reported in investigations.

Training in Initial Learning. — Initial learning occurs each year at the beginning of school in the fall. It also occurs when a new subject is taken up, or when a project of interest is started. If we keep in mind the two characteristics, *high interest* and *rapid progress*, it will be possible so to deal with this stage as to derive more lasting benefit from it. Now the problem of the teacher is to spread this interest and progress over an entire term or year. It is not desirable that at the beginning of a play children shall be highly interested and then as the real work of development goes on lose this interest; that in launching a project great enthusiasm be shown only to diminish; or that in the fall when school opens, the work be attacked with great zeal while later on the classes must be forced. Progress may also be directed in such a way as to prevent the sudden break that so often causes dis-

couragement. Some special ways of utilizing the factors of initial learning are:

1. *Distribute the Difficult Parts of the Work so as to Prevent Discouragement.* — When at the beginning of a subject or at the first of the term high interest is evident, the superior teacher selects just enough difficult work to prevent too rapid progress. This work must, of course, be very worth while and influential in development. Thus, when interest is about to wane, the difficult task is completed and a sudden jump in achievement brings on new pleasure. This is really the only true way to attack any problem. As early as possible the difficult and uninteresting features should be met and mastered. But they should not be piled up so high at first as to cause discouragement. Just enough hard work should be placed here to utilize initial interest and to develop a second period of interest by the pleasure that is always a part of legitimate realization. It is just here that the intelligence, planning, and knowledge of the better teacher are revealed.

2. *The Teacher Should Have Work so Planned that the Impetus of Initial Energy and Interest Will not Be Lost.* — Frequently a class loses interest in a subject because the teacher was not ready to utilize the factors of initial learning. When work worthy of their state of mind is not ready for them, children are made lazy and disinterested by being forced to dawdle. In this case the teacher waits until the best time has passed before he is ready with important tasks. When

they do come, the class has lost interest. This may be the case when the initial work is too easy or when it is made up of tasks that do not contain elements which make for progress.

In learning a foreign language, for example, the mastery of a number of fundamental phrases is worth much more than learning a few declensions. The former is much more difficult. But it is also more interesting and is just the type of subject matter that suits the initial stage of learning a language. When a basis that appeals to the child's intelligence has been laid, he will be in the stage to take up declensions and like factors. He will have reached the place where he will probably recognize the need of them.

In the lower grades children are interested in drill and mechanics. They come to school to learn. They are in the initial stage and desire work of the proper sort. Poor teachers fail here by adopting either of two equally ruinous policies. One is to regard the child as unfit for regular work until he enters the third grade, where he encounters a heavy program. For two years he has done little more than play. He came to school ready to learn. He discovered that in school one only plays, and the interests which hearing of school had developed soon died. After these two years he is told that the time is passing rapidly and he must now change his entire method of living. Here the entire initial " urge " has been lost. The other method is to heap too difficult tasks upon a mind at first will-

ing but soon discouraged and disheartened. The learning curve in this case resembles that in puzzles, which has already been described. Only here the puzzles are made so difficult and uninteresting that there is no rise in the curve. Initial energy and interest are thus dissipated.

It is very important to utilize properly this initial stage in learning. When a new subject is taken up, when a new term begins, when a play or a project is started, when a child enters a different grade or room, when a teacher first takes up his work with a class, and when the child enters school, we have situations of high potentiality. High expectancy on the part of the learner is present. He desires to accomplish something worth while. His energy is greater than at other times.

Training in the Later Stages of Learning. — For the ordinary individual the later stages of learning are characterized by loss of both interest and energy. It is here that the superior teacher is at his best. Much will have been gained by proper methods at the start, but the teacher who must deal with children in these later stages has little to do with the work of the earlier stages. In the work for the year, he will be able to deal with the entire problem, but the common subjects are begun by the primary teacher and continued into the dull drab second stage by teachers in the intermediate and upper grades. In the intermediate grades the crucial point is reached. Teaching in these

grades has long been a problem. Our literature on pedagogy is almost entirely lacking in devices and methods which apply to the third, fourth, fifth, and sixth grades. Although later stages of learning are met with in the rest of the school, the observations of this study force the conclusion that this is the big problem for the teacher in the intermediate grades. In the high school one teacher or one department controls the methods used in teaching an entire subject. It is thus possible to provide for both initial and later stages of learning.

1. *Diagnosis.* — In later learning the teacher must take the time to make a thorough diagnosis of the condition of each child. All that is good must be saved and built upon. Numerous unfortunate and disadvantageous habits must be eliminated. In the content subjects much that has been learned from the wrong point of view will have to be reorganized. Even when the initial work has been done by an excellent teacher, hundreds of illusions occur, and in the later stages these must be weeded out. Following are wrong conceptions of children:

Spelling. — By the time the fourth grade is entered the child has attempted to spell most of the words he is likely to use in his writing throughout the grades. The study of Jones found this to be true.[1] Now the poor speller could be made at least average by learning from fifty to one hundred

[1] W. F. Jones — *Concrete Study of Spelling.* University of South Dakota, 1914.

words which he continually misspells. Jones has told us what the one hundred demons are, but each child has a few special demons of his own. Diagnosis will discover these, and when discovered they should be mastered.

Arithmetic. — Most children suffer from special weaknesses in the four fundamentals, fractions, or decimals. Both Woody [1] and Counts [2] have described these in detail. Many children in the upper grades do not know the multiplication tables. Some suffer from a lack of knowledge of decimals to the extent that they are retarded in their work in percentage and interest. One hour of practice on the part of such a child after the teacher had discovered his weakness, was enough to put him right. It may be that a child missed the addition of fractions by being out of school at the time this subject was taken up. At any rate teachers who diagnose constantly find the most peculiar weaknesses. One child was unable to multiply a fraction by a whole number, although he was very good in almost all of the other work in fractions.

Reading. — In reading, numerous bad habits become established before the child reaches the fourth grade. Special difficulties are often avoided by the child. A weakness may be established in such a case when only a few minutes' practice is all that is necessary to put him upon a higher level. Judd [3] has made a special study of such peculiarities and methods of eliminating them. A child may hesitate in his reading because he has formed the habit of going back to words he has already read. He may be reading without utilizing the factor of context. He may be entirely ignorant of phonics

[1] C. Woody — *Diagnostic Tests in Arithmetic.* Teachers College Publication, 1915.

[2] Counts — *Arithmetic in Cleveland Survey.* Chicago University Press, 1916.

[3] C. H. Judd — *Reading: Its Nature and Development.* University of Chicago Press, 1918.

and their use. He may be slow because he has formed the habit of being slow. After reading a few passages with more speed, he finds that this slowness is unnecessary. Every teacher in the elementary school should have Judd's monograph. A number of scientific reading studies are published by the University of Chicago.

High-School Subjects. — After the first few weeks of algebra, French, or history, there are always a few children who desire to "drop" the subject. In all probability many others are discouraged, but they continue from force of habit. This desire to drop may have developed because the teacher did not teach properly in the initial stage. In any case, this is the time for diagnosis. Instead of being allowed to drop a subject, the child who makes such an appeal should be thoroughly diagnosed, told what his weaknesses are, and set to work overcoming them. However, not only those that appear to be having special difficulty should be diagnosed. The entire class should be gone over and set to work anew.

In high school work this period of discouragement is especially noticeable. "Drop-outs" is a term which is finding large usage. Proper teaching will go a long way in the solution of this problem.

It should be added here that diagnosis is important in initial learning when abilities of various kinds are essential as a preparation for a subject. Thus, when a child enters the algebra class, he should know the fundamentals of arithmetic. Diagnosis on this point is essential at the beginning. In the study of modern languages, however, a knowledge of English grammar may not be fundamental. Poor language teachers continually complain because their children do not know the rules of English grammar. Many superior

language teachers do not complain on this score. They report that the grammar of the foreign language is a secondary matter, more or less important, to be sure, but they do not base their language teaching upon a knowledge of English grammar.

Diagnosis of Boy Entering Fifth Grade. — This illustration of a fairly complete diagnosis of a fifth-grade boy may serve as a model of what the teacher should know about every child. Such information is not hard to obtain. It should be done during regular school time, as a part of the teacher's daily routine. After it has been worked out, training will be less difficult for the entire term.

1. Personal Factors. — Height, one inch below average as given in U. S. government chart. Weight, three pounds below average for his height. More or less nervous while in school. Tends to be a little overactive on the playground. Has some trouble adjusting with companions. Intentions are good usually.

These personal factors indicate that this child should not be pushed or scolded very much. He should be taught to work hard at the beginning of a task so as not to become nervous. His height and weight indicate that he should be out of doors as much as possible, and he should be allowed a great many chances to adjust to social conditions so as to develop this side of his nature.

2. Reading. — Is nervous when reading. Often fails on words that are very easy because he does not take chances when he feels he is right. This is probably because teachers or parents have been too strict. Is slower than the average child in the grade. However, contrary to the general rule, he remembers exceptionally well. He rarely reads for pleasure. This may be a cause of his slowness.

In reading, a plan is formulated in coöperation with the parents to get him to read twenty minutes a day at home. He is to be given a chance in the language period to tell what he has read. In school the teacher works to eliminate the lack of confidence which exists and which former teaching may have engendered. Since his memory for what he reads is even better than that of many adults, he is drilled upon speed with little or no attention to comprehension.

3. Spelling. — Is superior in spelling, especially in oral spelling. In connected written work, makes many mistakes that do not occur at other times.

He is drilled especially upon correct spelling in composition work.

4. Writing. — This is good, but child works to a disadvantage. He is very inefficient in holding paper and pen properly. He takes a great deal of time to get ready. Is likely to get ink on his hands and clothes.

All the trouble in this case seems to come from not getting down to business right at the start. He is worked upon from this standpoint. He is told to think just what he is to do before he does it and to keep in mind such facts as that ink will soil, and to use care before he touches the ink. Some of this trouble is, no doubt, due to nervousness. Therefore, he is not scolded for getting ink on himself. The teacher plans to help him gain better control.

5. Arithmetic. — Is good in mental drills; is fairly accurate. Takes more time than the average child. This is especially true in written work. Is given speed drills in written work, emphasizing proper handling of materials.

6. Interest and Spontaneity. — Is apparently interested in everything except the regular work. Assigned tasks seem to increase his nervousness. In general information is far superior to rest of class. But in any ordinary work is likely to be caught attending to something else besides the lesson

at hand. Does not hide his faults as well as does the normal child. Is thus blamed for many things he does not do.

The teacher in the fourth grade reported his as a case different from the ordinary. She saw great improvement during the year. In this case sudden changes are not to be expected. A slow development of interest and effort in regular work will be expected. The wide information of this child together with the indication of earlier oppression undoubtedly account for lack of interest in assigned tasks. If he can overcome the mechanics in the lower grades, he is likely to do well in the upper grades.

The average teacher has not time to make a complete diagnosis of this kind for every child. But as soon as possible those who do not fit into the regular work should be studied in the above manner. It is not necessary to write it all down in such complete detail, but the problem is nine tenths solved when such a diagnosis is made. It will help the child immeasurably. It will save the teacher from making hundreds of blunders. It will prevent numerous days of worry when the nervousness of such a child may cause no end of trouble if it is not understood. Hundreds of experiments upon learning have revealed that the teacher cannot proceed intelligently until such information is in his hands, and one week of training built upon the above knowledge will mean more in the way of getting results in the work of this boy than an entire term of ordinary instruction where the chief concern of the teacher is the imparting of units of subject matter regardless of everything else.

2. *Regenerating Interest.* — *Let us repeat that the average person remains average because his interests change and wane so often that he does not continue in one occupation long enough to become superior. Probably a large number of average persons could have become superior if some one had been near who was able to give proper advice and lend encouragement at the proper time.* When interest begins to diminish, the teacher should vary the work. This does not mean withdrawal, but only a change in attack. The *surroundings may be modified* both physically and socially; the *point* of *application may be changed;* and even a *short rest* may be profitable. Shakespeare illustrates this idea in his tragedies. At the end of a heavy scene we find the clowns, and the next scene is not likely to be a direct continuance of the one before. But the fundamental elements of the tragedy are working throughout the whole.

Another important factor in the recreation of interest is motive. The learner should be taught to keep his eyes upon the goal. At the end of the initial stage, children in the upper grades and high school may be told, when they begin to waver, that realization is now only a matter of a short period of effort. Our records reveal numerous cases of children who wished to drop various subjects but who were thankful later that they were not allowed to do so. They were told to keep on, that a thorough trial of the subject had not been made, and that in all prob-

ability they were on the verge of a sudden jump in ability.

The entire plan here must be much more intelligent than the old scheme, which often demanded that children stick to whatever task the teacher assigned until it was completed. As a rule there must be definite reasons for the assignments, reasons which the learner can comprehend. These must be based upon diagnosis as described in the foregoing pages. When it is understood that valuable subject matter chosen especially to fit his needs is being attacked, an intelligent child will be likely to persevere.

Illustrations of Regenerating Interest. — Let us take, for a beginning, an illustration from common experience outside of school work. A boy and a man were fishing. They had been fishing for four hours without getting a "strike." The boy was tired of it. His interest was flagging. He wished to quit and go home. Suddenly a tug on his line made him aware that fish were really present. His entire demeanor changed. For the next ten minutes his interest was intense. He did not need to catch a fish in order to regenerate his interest. All he needed was a little encouragement. But when at the end of ten minutes a fair fish was caught, his interest went up to such a point that a full hour without a strike of any kind was not enough to overcome it. But when a couple of hours later the fish began to bite to the extent that the man and the boy each caught half a dozen fish, it was almost impossible to drag the boy away, and the idea of sometime returning is enough to make the world a better place to live in for him.

Providing for Visible Evidence of Success. — 1. In Read-

ing. — A boy in the first grade was not doing as well as he should. He had recently become inattentive. The teacher asked him to read a selection that was not too difficult. He did well and the teacher took special pains to call attention to how well he could do when he studied. She also mentioned the gain he had made and told him to keep on, as he was surely capable. This did not entirely solve the problem, but it had a visible influence upon his attitude.

There are now a number of short books that any ordinary child may finish in fifteen or twenty minutes. The idea of finishing a book seems to regenerate interest. It is worth trying in cases where children seem to be discouraged.

2. In Arithmetic. — In a class that was approaching the second stage, a teacher planned the assignments each day so that three of the five daily problems were such that the class could readily work them. Two of the three came first, then the two difficult problems, and finally the other easy one. The scheme was used to make some realization sure to every child who worked. It was observed to have a decidedly beneficial effect.

In another place where arithmetic tests were used each child kept a record of his improvement. The tests were given every two months, and the drill sheets were used daily. By emphasizing improvement in every case rather than high or low scores, encouragement was furnished to a number of children who were hopelessly outclassed as far as natural ability was concerned.

3. In Writing. — In many places the Ayres or the Thorndike writing scale is posted upon the wall. A child may take his work to the scale and score it any time he wants to. This allows the opportunity to see improvement. It has proved to be a satisfactory practice. Any teacher can get one of these scales and with the right sort of stimulus the children will make large use of them.

Another method by which poor writers who were discouraged have been made to take interest anew is the analysis of difficulties, following which they work, overcoming them one at a time. By emphasizing a single letter which has been giving trouble, great improvement in this one letter may be seen in a few days. It should not be written by itself, but a sentence should be constructed in which this letter appears before and after every letter in the alphabet and at the beginning and at the end of a number of words. The child is told to work on this letter and do his ordinary writing in the rest of the sentence. He watches his improvement in writing this one letter. Interest usually is very great when such a scheme is properly applied.

If the teacher keeps these two stages of learning in mind from the beginning, the second stage may never appear in the form of a plateau. Thorndike contends that in all probability intermediate plateaus are unnecessary.[1] When the work is properly arranged, fairly uniform progress, with constant daily fluctuations, of course, may go on throughout an entire year. But the facts of initial and later learning must be kept in mind if the difficulties of the average or ordinary teacher are to be avoided.

Proper Training Accompanied by Temporary Retardation

Immediate Results Often Deceptive. — When a child or an adult begins a complex and difficult task such as learning to read, typewrite, or play the piano,

[1] See plateau in the curve given in this chapter, the "dead level" after the first two weeks of improvement.

or when he takes up algebra, French, or chemistry, there are numerous proper adjustments which if not made at the beginning grow more difficult to make as practice continues. Improper ways of doing hundreds of apparently insignificant acts may gradually become fixed. They make up a growing body of liabilities and prevent the learner from reaching the highest success.

In music, therefore, the child should have the best possible teacher at the beginning. It is better to have a good one then and one less skillful later on, than to reverse this order. Many parents make the error of sending their children to mediocre music teachers until "they get far enough along to need a better teacher." The result is the ingraining of bad habits at the time when an hour of proper practice is worth a hundred hours of practice later on.

What has been said of music may be said of any other complex subject. Judd[1] has shown that the proper basis for successful silent reading in the upper grades is laid in the four lower grades.

It is not difficult to get results at the beginning. The fact that an adjustment is being made, even though it be a poor one, is enough to insure improvement in a function about which the learner knew nothing before practice began. This fact has been very deceiving to the educational world in general, but the superior teacher knows better than to rely upon such gains.

[1] C. H. Judd — *Reading: Its Nature and Development.* Chicago University Press.

He knows that the disadvantageous method will cause so much trouble later that immediate gains may well be sacrificed in order to fix at the start proper modes of procedure.

Illustrations. — A young man who had a good voice developed considerable ability in singing. He sang at entertainments and in choirs for several years. Then he decided to have his voice trained. He went to a famous teacher and began taking lessons. He found that the long time he had spent in singing without proper training had developed habits that *injured the quality of his tones, limited his range, and actually tore his throat to pieces every time he sang so that with each song his voice became worse.* Most of the years of his training were spent in overcoming the drawbacks which his early unguided experience had fixed upon him.

Anyone who learns the game of golf will be brought face to face with this situation. In fact, this game brings home the value of proper training at the start better than anything else. A player who pays no attention to his habits is likely for the first few weeks to be superior to one who is under the guidance of the best of trainers. In fact a novice after a week or two of practice may be able to beat players of considerable experience. But after a few weeks bad habits begin to overcome early adjustments. The longer such a person plays the worse he gets. This is common knowledge on the golf links. Golf is no different from any complex function, but the result of a drive or a putt is always visible. It is ideal from the standpoint of allowing the learner the opportunity to see the results of early mistakes.

Changing Bad Habits. — When disadvantageous habits are once formed the immediate results in per-

formance must be neglected and attention focused upon the substitution of the right method of work. We find such a situation in silent reading. Many children articulate as they read. It has been found that articulation decreases speed. When the child at first tries to keep from articulating, his attention wavers between his method of reading and the material that is being read. Poor work is the result. The teacher who does not look beyond immediate returns is likely to note this and be disheartened by the fact that any interference with the child's natural method decreases his ability. The teacher who understands the facts of learning and training will keep on until the articulation is eliminated without paying much attention to immediate results. It has been found that when articulation is finally eliminated the speed of the reading increases.[1]

Wasted energy in addition furnishes another illustration. Suppose a column like the following is to be added:

624
987
531
796
815

If the learner is in the habit of saying to himself " 5

[1] Stone shows that silent reading without articulation is much more rapid than oral reading. With complete articulation it is, of course, the same as oral reading. *Silent and Oral Reading.* Houghton Mifflin Co., 1922.

and 6 are 11 and 1 are 12 and 7 are 19 and 4 are 23," he is allowing himself to go over seventeen different words in the addition of the first column. It has been found that training to cut down the number of words in this process will increase speed. Proper training would develop the habit of repeating to himself merely each new sum as " 11, 12, 19, 23." But when such training is begun, the results in both speed and accuracy suffer. After a time, however, the value of the new method begins to tell, and when it is firmly established the learner forever afterwards works upon a higher level.

Incorrect Popular Ideas to Be Overcome by Educational Psychology

Practice Does Not Make Perfect. — Thorndike in his *Psychology of Learning* concludes that it has been a mistake to assume that constant practice is all that is necessary in order to assure improvement. Probably the ill effects of the naïve application of the old proverb, " Practice makes perfect," have been more damaging than a casual glance would indicate. Take for illustration some effects in teaching the tool subjects.

In *writing,* children have been allowed to practice in such a way as to fix bad habits of all sorts. It has been found in some schools that the more they practice the worse they write. Disadvantageous methods of holding the pen, unwholesome positions, bad arrangement of the paper, and other like factors often furnish

a background for poor spacing, uneven alignment, and unequal height in the same letter. Constant repetition (practice) of such a combination of factors may finally establish the "character" of the child's handwriting.[1]

In *reading*, children often develop the habit of reading slowly. They practice this method until a dozen or so details become established. The halting reader learns to stop too often in looking over a line; he goes back to words after once passing them. Often a habit of paying practically no attention during the first reading is formed. Such a reader must always read the most simple directions several times before he can focus upon the meaning. How long would practice of this kind need to be continued in order to reach perfection?

In *arithmetic* practice is often of such nature as to ingrain inaccuracy. For illustration consider the common uses of the answers that are furnished to problems in many texts. The child comes to a solution and turns to the answer. He takes little trouble to check his work. He hurries through to a solution as quickly as possible. Usually his first answer is incorrect. He goes through the problem again and refers to the correct answer a second time. Often this is repeated several times. *After six or eight years of such training one learns to do his work in such a way as to expect his answer to be incorrect.* The *majority* of adults who

[1] See F. N. Freeman — *The Handwriting Movement.* Chicago University Monograph, 1917.

have studied arithmetic by this traditional method state that they never trust their calculations. At times when they are forced to add a few long columns, perform long division, or multiply fractions they state that they would give anything for some kind of answer book. If the reader has gone through such training, he has probably experienced this feeling himself.

The *modern languages* have been so taught in many of our high schools that children who have "taken" French, German, or Spanish for two or three years have not been able to speak or read the language. Yet a successful language teacher reports that he teaches the majority of his students both to read and to speak fairly well in one year. What is wrong with practice that does not develop this ability? The teacher merely "covers" the grammar, requiring that declensions and conjugations be learned; then follows the "required books," and these are studied with dictionaries and grammars at hand. The children are not required to do a definite amount of speaking; they are not asked to master in connected sentences the phrases that are most commonly used; the parts that are most useful and difficult are not tabulated and used in drill; independence in the interpretation of a paragraph without the use of a dictionary is not emphasized; and so on — one could continue until numerous essential factors of successful practice that are ignored in such work had been mentioned.

Why Practice So Frequently Fails. — There are a

number of causes for the failure of practice to bring about desired results. Some of these are:

1. *Incorrect Practice.* — Probably this is the most frequent cause of difficulty. When the learner practices the performance of an act, he, of course, fixes his habitual way of doing it. With every repetition, the firmer the habit becomes. Thus, when a child has spelled *until* with two *l's* in all his written work for a period of five years, his practice has made it more difficult to form the habit of spelling the word correctly. When he has read without trying to comprehend at the first reading, his ability to learn to comprehend without first reading several times is lowered in accordance with the extent of the faulty practice. When he has practiced playing the piano under a poor instructor his numerous bad habits limit his development.

Thus, in the schoolroom a period of twenty minutes spent in "writing practice" may result in lowered writing ability if very definite ways of practicing are not established. A period spent in reading may assist in developing and fixing numerous faults. By working a dozen arithmetic problems at home every evening for a term a child may fix habits of slow and inaccurate work. When work is *merely assigned*, results are frequently more destructive than constructive.

2. *Destructive Practice.* — This type of practice may result from a number of causes. The hygienic surroundings may be such that every effort tends to destroy rather than develop. In reading, children

may injure the eyes by facing a bright light. If this is continued for a long time permanent injury may result. The print or the paper may, likewise, be destructive. A schoolroom in which bad air is a constant factor may make schooling productive of injury.

In athletics the results of destructive practice are most apparent. When heavy exercise follows a meal, its results are not developmental. Also when exercise is continued beyond the point where the system can react and overcome the destruction of nerve and muscle cells, the athlete loses as the days go by. A good trainer seeks to ascertain knowledge of the constitutional vigor of the person to be trained before he goes very far in prescribing exercise. He also works very gradually from light to heavier tasks, until the result is a well-trained and hardened athlete. The novice who plans his own exercise may injure himself. This has frequently been the result when frail persons have taken up such exercise as horseback riding. Physical training merely offers an obvious illustration; mental results are just as sure.

3. *Practice by Doing the Same Thing in Too Many Different Ways.* — Most of the mechanical factors of action in modern life are learned best if but one method, of course the best one known, is taught. Writing is a conspicuous example here. Children are often taught three or four different systems during the elementary-school period. The result may be seen in the writing of the average person. There are numerous

other places where the same situation is found. In addition, subtraction, long division, making change, habits of speech, mannerisms that are developed in teaching children to be polite, and so on, we have trouble because numerous ways of doing a simple, habitual act are developed. In every case when the time and energy are spent upon any one type of action advancement is insured; while so much interference is generated when several different ways of performing a simple act are taught, that general incapacity and bewilderment, rather than progress, often result.

In consideration of the foregoing, a teacher cannot be too careful in arranging the details of school work. Constant attendance at school does not insure progress and even immediate gains may be coupled with elements that mean eventual loss.

Proper, Incorrect, and Destructive Practice Are Often Combined. — Here is probably the crux of most difficulties. When proper practice is arranged, it is often difficult to limit the other two factors. We are even often able to report appreciable gains from practice of the right kind, while, at the same time, the slowly developing results of a few incorrect acts as well as the destructive influences of bad surroundings finally serve to overcome all the gain and eventually cause our efforts to bring about a fall in ability.

This may be witnessed by anyone who begins a new complex activity. Because he was totally incapable at first, the learner seems to progress rapidly.

But this rapidity is only the result of overcoming a few of the gross elements which yield readily to practice. At the same time he fixes numerous unfortunate habits some of which may be very difficult to eliminate later on. For example, Thorndike has been able to show that good work may be done in an overheated, poorly ventilated room. The good work was an immediate result. If the workers continued for months to work under the unfavorable conditions, they would finally begin to suffer.

Incidental Learning Not Counted on by Superior Teachers. — Incidental learning is rarely dependable learning. The process of learning is too complex to be brought about in any haphazard fashion. This is especially true of any advancement that the individual makes beyond ordinary achievement. A child in learning to read may be bright enough to master phonics without taking much time in class for them. In this case he undoubtedly learns consciously the sounds that go with the different letters. They may have come without much apparent effort because they were connected with interesting words and subject matter. In such a case we are very likely to find numerous difficulties which only a few minutes' well-planned drill would have prevented. In mathematics and language diagnostic tests are revealing like situations. Many children finish school without being able to make change accurately. This is a subject usually left to incidental learning. A few periods

spent in teaching children how to make change in the proper way will show that specific training is far superior to the incidental method.

Children will learn many things "incidentally," but learning of this type, by its very nature, is not to be depended upon in an organized system of education. On the farm we are beginning to find that nothing is likely to grow to the fullest possible extent unless some one is there to provide the numerous favorable conditions. In manufacturing, the minutest detail must be planned, else success in some large enterprise may be hindered.

Therefore, when a motive for work has been established, and when interest is high, the good teacher knows that his main work is still before him. He does not say, "Now I have the class interested and am sure that learning will go ahead without any more planning on my part." He merely rejoices that interest is established so that it will be possible to go to work in attacking the problems or mechanical difficulties that lie between the children and success.

Summary in Suggestions for Practice

1. Read and study educational psychology. The science of learning must eventually be understood by the teacher who continues to advance.

2. Emphasize in your daily work the factors of learning that have been discussed in this chapter. Utilize initial and later learning in your plans. Work for a proper balance between speed and accuracy. Re-

member that immediate success does not always indicate eventual gains, and when you know for what you are working, do not let immediate troubles discourage you. Wrong ways of doing things are hard to overcome. But when once they are eliminated the individual is left upon a higher plane. Strive to learn to apply the three elemental laws of learning, *readiness*, *exercise*, and *effect*.

3. Do not forget that progress is won only after *long continued effort* in doing the right thing in the right way at the right time. Determine carefully the course to follow and then continue in it year after year until results come. Modify it only as you see that such modifications will be beneficial. For illustration, if a new and better system of writing has been discovered, do not apply it to children who have practically completed their training in writing. Keep in mind the time element. Many of our changes have merely brought confusion.

4. Do not place reliance upon the chance that what you wish to have learned will be acquired "incidentally." Use every incident that may be encountered on the way in bringing about the success of your plans. Do not let your plans be dominated by these incidents.

5. Much of the ordinary practice in school work has had a negative influence. Constant effort in recitations and study periods does not insure improvement. *See that you do everything you can to make your efforts bring progress rather than interference.*

Questions to Emphasize Chief Points in Chapter III

1. In what large way does educational psychology function in the work of superior teachers?
2. What are the three fundamental laws of learning?
3. Illustrate how they may be combined in teaching.
4. Illustrate how teaching may fail because one of these laws has not been obeyed.
5. How are speed and quality related?
6. Is speed valuable? In what ways?
7. How may speed be increased?
8. How may quality be improved?
9. Describe the initial and later stages of learning.
10. What types of training should be given in the initial stages? In later stages? Illustrate.
11. How may proper training at first bring negative results?
12. What incorrect popular assumptions does educational psychology contradict?
13. What are some of the bad results of the application of these assumptions?

Problems for Discussion Suggested by Chapter III

1. In what ways may a background of educational psychology change the attitude of a teacher who has discovered that a window-pane has been broken? It is evident that the children know who did it but do not desire to expose the culprit. How may a teacher who has studied psychology and has observed it in children act on such an occasion?

2. This is only one of hundreds of circumstances when educational psychology may play a part. Describe a number of incidents where a knowledge of this subject may be helpful.

3. A teacher who had not studied educational psychology remarked to a boy taking practice in writing that each letter he made should be better than the one he made before until he had attained perfection. This was once a common ideal of teachers. What is wrong with it?

Folk and æsthetic dancing provide activity of an ideal type for growing girls. The exercise is thorough but not strenuous, and the result in establishing proper "feeling tone" in school and individual morale is especially worth while.

CHAPTER IV

THE TEACHER IN THE BACKGROUND

A Basic Principle Applied

Educational Psychology in Class Management. — This chapter describes the application of a basic principle of educational psychology in the organization and management of children in classes. This principle may be stated as follows: *In every act of education the learner must undergo the educative experience.* To the extent that this principle is realized teaching brings results. When the learner does not participate, the best of plans is sure to fail. Therefore the first issue in all teaching is that of bringing the work of the children into the foreground, making child activity play the larger part with teacher activity directed solely toward the stimulation, inspiration, and guiding of the children. With this one principle in mind anyone can go into an ordinary classroom and see the waste and futility of a great deal of teacher activity.

The teacher must cease taking exercise that he does not need and plan to make his classes more active. The teacher must become less active physically and verbally and more scientifically active mentally.

Teaching thus becomes a matter of thoughtful analysis at every step.

The ability to work independently is developed in children as the teacher keeps to the proper extent in the background. Child initiative and independence will be considered at length in this chapter.

Results are lasting under this method. They even go late into life and grow as the years pass by. Numerous adults report that they are still deriving benefits from suggestions received from teachers thirty and forty years previously. Such results would have been impossible had the teacher done all the acting. Consider the following illustration:

A teacher in a normal school is remembered by at least twenty successful men as the one person who stimulated and to a large extent guided them in making a success of life. These men point to the self-sacrificing personal interest that this man took in them as fundamental in his work. They also mention the large part played by discussions in class. Here the different individuals took issue with the teacher and with each other. One young man reports as follows:

"I remembered the discussions relative to philosophical concepts. Here I developed from one stage to the other in rapid succession. I expostulated loudly in defense of many antiquated ideas. At the same time I read widely. I can still see the keen, thoughtful glance of the teacher as he listened with inner approval (approval not recognized so much by me then as now) to my discourses. As I look back I realize that his pleasure was gained from watching the struggling student work through the necessary steps for development rather than from the value of what I said.

"From this man I learned to read and think independently. I learned that there were possibilities ahead of me far greater than I had thought of before I took work under him. I also learned that a superior teacher is pleased when his students take issue with him if they have data of their own upon which to base their opinions. In learning this I changed from a follower to an independent thinker. This change has meant much to me.

"Although, as I now view it, my success is very limited, I am realizing much that he suggested to me and which seemed so impossible at the time. I am sure that all of us who were members of his classes owe much to his method of keeping his own personality in the background while he spent his energy in devising ways of developing us."

The Modern Teacher Keeps in the Background. — A superior teacher never does all the work while the class looks on. He is more interested in the influence upon the class of the facts he teaches than he is in the subject as such. The teacher who desires to improve his work may well begin at this point. Let him learn to *wait* while the children *grow* through their difficulties. Let him direct and help only in ways that will stimulate the pupil to direct and help his own efforts.

The teacher who helps children over their difficulties by explaining constantly is doing the easiest thing. He is realizing his own desire for activity; his own discomfort in inhibition is avoided when he does not wait patiently for the child to learn in his own fashion. He is expecting more of an immature child than he is

of himself. He expects and requires the child to keep quiet, especially the bright child who understands long before the teacher finishes with his multiple explanations, while the teacher has not self-control enough to wait for the slow child.

In our own teacher-training work, with some excellent teachers to demonstrate, not in special lessons but in daily work, hundreds of young teachers and prospective teachers have been sent to observe. Often their first remarks upon what they have seen are relative to the ability of superior teachers to wait while the children learn. Children in such classes early show capacity for individual and group performance far superior to those in ordinary schools. The fact that the teachers know how to keep in the background and at the same time provide the training and proper suggestions necessary to bring about advancement, is the fundamental reason for initiative, combined with the capacity to succeed, on the part of the children.

To Be in the Background Is Not to Withdraw Entirely. — Here is one of the most difficult factors in all the work of teaching. Every teacher should daily ask himself these questions: "How may I teach and still make it possible for the children to learn? How must I act in order to keep the class active and still not lose the opportunity to influence the pupils properly? How may I stimulate, guide, suggest, at times control, and at the same time allow the children to act spontaneously, intelligently, and without any

idea that I am forcing this action? How may I keep in the background and at the same time be sure that I am doing my part?"

The successful teacher realizes a proper balance in these matters by observing the following points:

1. His work is well planned. He has in mind where he is going, why he is going there, and how he intends to get there. He also knows what means he has at hand, and he has organized them in the most effective way possible.

2. He studies his class. He has studied them as a group. He has studied each individual. His work is one of stimulating and developing these individuals, so that *they* will become more capable and independent.

3. He knows that every child must receive all the exercise of desirable functions that it is possible for him to provide. Thus, instead of making his own activity the center of the work, he finds himself busy in the task of organizing and planning so that all the children will have proper opportunity for activity.

4. Back of all the activity of the children we find the presence of such a teacher "imminent," as one successful superintendent expressed it. He is there as a source of information, as an unbiased judge in disputes that cannot be settled by the children, as a wholesome, uplifting, stimulating force which adds to the zeal and happiness of the children and makes the work immediately worth while as well as developmental.

Suggestions and Illustrations

Use Caution in Beginning. — When children have not been allowed much freedom, it is a grave mistake to give them a great deal of liberty at first. Such a course is bound to result in disaster. A capable teacher, upon beginning work with a class that has been held down by mechanical teachers in the past, first of all makes a careful study of the class. Gradually responsibility is shifted from the teacher to the children. In every class there are always a few children who can be counted upon to understand what is desired by the teacher who leaves a problem for them to solve without help. These rise to the occasion and take over work that was formerly cared for entirely by the teacher. At first their efforts are likely to be crude. They will not do as well as the teacher could have done for them, but the immediate performance is not the result that is being worked for in this case. After a few weeks good results are usually in evidence.

Here is a type of training that may well go on from the kindergarten through the graduate college. No one ever reaches the place where he has initiative to spare. An illustration of its highest development was seen in the officers of all the armies during the World War. It is impossible to conceive the heights to which man may some day ascend when initiative and tenacity are developed to their fullest extent.

When too much responsibility is shifted from the teacher to the children, the result is either an orgy of license or despair. Such a case is illustrated by the man who, upon hearing an eminent man state that he allowed his children to help themselves from a common purse, went home and tried this method with his spendthrift son. The son, of course, immediately took undue advantage of his laxity, whereupon the father concluded that the idea was not practical. But in one case this liberty followed years of training, while in the other nothing but parental mistakes preceded it.

Developing Independence and Initiative in a School. — A principal with modern ideas took charge of a school where a " military " principal had been employed for the three years immediately preceding. The man who was leaving had, literally speaking, " run the school." He disciplined with an iron hand, punished severely whenever the occasion allowed, and kept aloof in all group undertakings. In fact, the new man found a typical situation where a school has been in charge of a person who has not been exposed to modern ideals and practices. The children had received no training in choosing for themselves. They had not been allowed to control their desires, for the teachers had seen to that for them. When given free rein, they did not know enough to avoid the injurious, nor did they know when to stop after starting upon a course of action.

This situation is like the one described by Alexander [1] as typical of the relation between teacher and pupil in the German elementary schools. There children were required to show the greatest respect for the teacher. They courtesied to him whenever they met him. They obeyed implicitly and spoke only when called upon. On the other hand, Alexander tells us, they inwardly disliked and disrespected everything connected with this same teacher. This was shown by the way they acted when not in his presence or when his back was turned. Such a method is the ideal education for autocracy. When American schools are managed in this way, true Americanism cannot possibly result.

The new principal found a situation difficult to deal with. First of all it was evident that the children preferred to be anywhere but in the company of the principal. His problem is illustrated by the fact that when he walked down the street, groups of boys would scatter at his approach. He went to work quietly. He *delegated responsibility*. He took the attitude that the school needed the services of every one in the community and in a very short time the children had the idea that their principal was *helping them* build up their school.

This man remained in the community only one year, but made rapid progress in getting the school upon a

[1] Thomas Alexander — *Prussian Elementary Schools*. The Macmillan Co., 1918.

footing where it could go ahead without his constant attention. He did not in this time begin to achieve all that he desired. But some of the results may be enumerated.

First, he so inspired his teachers to want to succeed and know education in the higher sense that the majority of them went as a group to Teachers College, Columbia University, the next summer. This is merely an indication of a changed attitude which went so deep that it changed hundreds of unwholesome features of school life and work that had grown up under the earlier principal. It might be well to note that these teachers learned not to rely upon the principal for everything. The fact that they spontaneously organized and decided to spend the summer in developing themselves illustrates this point.

Had the attitude of the principal been less sensible, he would have taken pride in an ability to settle numerous little difficulties for his teachers. He would have reveled in the idea that he was the human dynamo that functioned as the center of power. But in working in the modern way he accomplished so much more for his school and his teachers that comparison would be futile. *The important result of his method was that he placed the school and the community upon a higher plane, where it has remained for fully five years after he left.*

Second, there was a distinct change in the attitudes of the children toward school and going to school.

Many of the older boys who had quit school the year before, returned. Some of these stayed and finally graduated. Under the old principal they had withdrawn as soon as the law would allow, and the majority of them were loafers, working at odd jobs now and then. This group of young men constituted a real menace to the community.

Work of this kind in education might be compared to that of the doctor who cures his patients by teaching them how to live. Hundreds of modern scientific investigations have revealed that bright people become criminal or insane when they are not *trained to realize legitimately* their inner impulses and desires.

Developing Initiative in Primary Children. — As a basis for the discussion of this topic let us consider a primary room in a small town where the teacher had practically no equipment, not even a musical instrument. A diagnosis of her work showed that *she* had become the center of activity. When she was given the modern idea, she saw immediately what she had been doing. Her task now was to place herself in the background and still do her part in educating the children. It might be well to mention several specific points where improvement was revealed in less than a week.

First, instead of " mothering " the children in all their little activities, she began to allow them to run about without attention on her part. When they came into the room from recess, she stopped watching

over them. At first they acted somewhat like little animals; one child seemed to like to stand upon his desk; another wanted to go to a far corner of the room; and another wanted to tell the teacher a story. She reports that she listened to the story, paid practically no attention to the child who stood upon his desk, and allowed the one in the far corner to stay there as long as he wanted to.

However, it was not the plan to allow this situation to continue or grow worse. She merely avoided calling public attention to what these children were doing, and at the same time she controlled her own impulses long enough to wait until she saw what the children would do when left to themselves. During this waiting she raised the question with herself as to just how "bad" these little activities were. In most cases she found that merely waiting for the child to adjust was more powerful and lasting than anything else she could do. In the few cases where waiting did not suffice she found that individual observation soon revealed ways of dealing properly with the child in question.

Second, she noticed that in their singing and games the children sang well only when she sang with them. Being without musical instruments she had found it necessary to sing for games rather than to play. She decided that she would try to train the children to sing their songs as they played and danced just as well when she did not sing or when she stopped in the middle

of a song as they did with her leading. In one week this ability was developed and the teacher reported that the difference in their interest in the games and the development of a spirit of wanting to attack things independently was very noticeable. They also learned during this year many more new songs than it had been possible to teach to preceding classes.

For a third factor let us consider the methods of meeting the curriculum and the regular work. In reading she found that most of the children had formed the habit of merely stopping and waiting when a difficult word was met. She found herself supplying the word for them. She had formed such a strong habit of rushing to their assistance that she had great difficulty in waiting for the child. On the other hand she discovered that this method had developed some " professional waiters " as she expressed it. They " merely camped on the difficult word " until the teacher gave them the usual assistance. By showing the children what they should do and by working with them and herself for a few months, she brought about great improvement. Many of the children reached the place where they felt injured if the teacher helped them over a difficult word or phrase.

In " busy work " (in the modern school called the " free period ") she had heretofore kept close watch to see that all the children kept busy at the kind of work she had arranged for them. She now made up her mind to allow more freedom and study rather than

guide and control the children. In this work she felt that the greatest gains were made. By keeping her own ideas to herself and by observing carefully she found that every child in the room had definite interests of his own. These she seized upon in her educational scheme. Henry was motor and mechanical. He loved to cut paper, to work at the blackboard, and to build. Without appearing to interfere with his freedom she gradually supplied more developmental work of these three types. Henry was allowed to take his choice, however. But when he did something of educational value, the teacher took the pains to speak about it. It was not long until the children would spontaneously form in groups at the board or about a game, and they taught each other. Now and again they became noisy. But even in these cases she made it a part of her plan to wait and see if they would not settle down of their own accord. They finally reached the place where they would notice their own disturbance. It was not at all infrequent at such times to hear a child whisper to his fellows something like the following, " Here, here, we must be more careful."

It should by all means be added here that this teacher found the greatest gains from such work to come to herself. She reported that never in all her five years' experience as a primary teacher did she realize how attractive and wholesome little children are. Many of the actions that she had previously considered

"bad" or annoying became interesting, and her observations furnished keys to knowledge concerning the children of great worth to the teacher.

But her greatest gain was a sort of falling away of what she termed "a growing school-teacherish rigidity," or a nervousness and overnicety regarding little things. Although she had not noticed it and could not place her finger upon the difficulty, her friends had been telling her that she was becoming a "typical old-maid school teacher." The change for the better seemed to come with the development in herself of this ability to wait and to hold off while the children were struggling along with things difficult for them but, of course, easy for her. She found that her habit of rushing in when some one else was doing something incorrectly, of explaining and overexplaining long after her listeners understood, and of watching for a special relationship to herself of the numerous unimportant actions of her companions had carried over from her school work and had caused others to note that she was becoming a bore.

Waiting and keeping in the background with her children thus developed in the teacher the ability to be a wholesome and desirable companion and friend to other adults.

The Significance of Child Independence

Child Initiative. — A basic purpose of school training is to develop children so that they can do good work without anyone to oversee them. School assignments

as well as the mechanical factors of school life must be planned with the aim of developing a sense of responsibility. In addition to the sense of responsibility, definite training in achieving what he attempts is necessary before the child is fully educated. Here again the simple details of school work furnish opportunity for valuable training. In fact, so simple and ordinarily so tiresome a process as that of coming in and going out of the schoolhouse or room may be used in developing initiative on the part of children. This same element of school work is discussed in other chapters, but it is so important that it will do no injury to mention it in connection with every phase of good teaching in which it plays a part. *When children learn to come in and go out of the schoolhouse, take their seats at the proper time, borrow pencils, leave the room during a recitation, and talk to each other when this is necessary (without being directed by the teacher and without asking for permission), the first and fundamental elements of education for initiative have been accomplished.* Under a superior teacher the initiative and the good sense of children in all such matters are a pleasure to witness.

A common type of failure in dealing with initiative is seen in the teacher who thinks that "something different from ordinary" must be done if initiative is to be developed. He turns his back upon the humble necessary daily task and looks elsewhere for something more spectacular. But in failing to connect initiative with everyday tasks he loses the hundreds

of opportunities for its exercise which daily life affords. The type of teacher who looks for opportunity to develop initiative only in the extraordinary rarely finds it, and when he does, his class is not equal to the occasion.

One of the best illustrations of what is meant by proper initiative and its relation to child training is found in the poem of James Oppenheim, called "The Clinging Arms."

Push off the clinging arms!
There is only death in this strangle hold; even if we call it love. . . .
The mother who cares too much for her child,
Or the husband for his wife,
They are keeping sheltered and confined what should be free and hardy, toughened for battle!
Nay, there is no real love in this binding;
It is more often a sense of waste and futility, and a fierce bickering and quarreling. . . .
Shake free!
Know love in freedom; know love in separation;
Give the soul its own self to support it, and take off your arms!
Do honour to the divinity of another human being
By trusting its power to go alone.

The most trivial task may be a pleasure if in doing it the individual may realize the joy of responsibility. The intelligent mind ever balks at the yoke. Boys delight in smoking cigarettes, breaking the rules of a school, staying out late at nights, and girls develop

propensities equally "bad" when held down unnecessarily in the little things of daily life. Boys and girls who react to repression in this way are sometimes the best and most intelligent. There is now a vast literature upon this subject. Beginning with Freud, who published as early as 1904, and coming on down to Jung, Adler, Steckel, Tridon, White, and Brill, with hundreds of more or less minor writers, there has developed a new theory of the emotions, which is incomplete and insecure in places but *which has established the fact that one of the most harmful factors in modern life is overrepression and overguarding on the part of parents and teachers.*

The superior teacher first of all makes it his fundamental purpose to *allow* rather than to require, to *suggest* rather than to demand, to *stimulate* rather than to force, to *dominate* possibly at times but never to domineer, to *trust* rather than to suspect.

One of our great statesmen explained his success by the remark, "The truthfulness of men trusted grows with trust." There is nothing that is surer to kill initiative or force it to break out in some unwholesome direction than a domineering, suspicious, overbearing, and tactless demeanor of the military type of "schoolmaster."

Such was the schoolmaster described by Thackeray: "I always had my doubts about the classics when I saw a brute of a schoolmaster whose mind was as coarse as any plough-boy's in Christendom, whose manners

were the most insufferable of all heaven's creatures, whose lips when they were not mumbling Greek and Latin, were yelling out the most brutal abuse of poor, cowering little gentlemen. . . . A man will slap you on the back and call you names because you won't learn, but I never could take the proffered delicacy. The fingers that offered it were too dirty."

Contrast this attitude with that of Dante, who said that all he ever did was due to his old teacher Latini. Instead of having his doubts about the classics, these same classics of which Thackeray speaks, he said that at a very early age he learned to love them, for Latini was a master at stimulating and inspiring. His fundamental method was one of trust rather than suspicion. Nor was this trust the naïve carelessness that approaches neglect. It could not have succeeded as it did if it had not been a part of a well thought out, world-wise plan of training.

Freedom through Conquest

As has already been mentioned, children should not be allowed to do as they please regardless of their ability to know what will bring them most pleasure. It would be merely ridiculous to contend that children *could* do as they pleased even if adults never interfered with them. There are two important elements in the doctrine of freedom. First, the child must be trained until he is able to choose intelligently between beneficial and harmful courses of action. Second, after

he has made his choice he usually finds that it is impossible for him to execute his desires. He must, therefore, be trained in accomplishing what he sets out to do. This training is as broad as life. It must also be specialized.

Training the Ability to Choose. — Children are born with numerous desires whose realization would not be beneficial to them. They also have many that are purely individual which prevent them from fully coöperating with others. These desires, if allowed to work themselves out unhindered, would bring ruin to both the race and the individual. The individual must be *trained* to choose between beneficial and destructive interests. This training cannot be brought about through complete control by adults. The child must choose for himself. His power of choice must receive the exercise necessary to develop it.

The right amount of freedom is always a difficult question. This is one of the reasons why teachers must be chosen from among the most intelligent. All the rules in the world could not show an unintelligent teacher how to give the proper amount of liberty to children. Added to this difficulty is the one of different intelligence levels among children. Every child cannot be given the same suggestions.

The Conquest of Infancy. — Beginning before school age, when the child desires to crawl about, the mother who prevents this and keeps him " away from dirt " takes the first step in making him a weak personality.

On the other hand, when the child is allowed to crawl at will, death, serious injury, or sickness is likely to result. There are hundreds of like situations that occur in the care of a growing infant. When he cries, to what extent must the parents answer? When he wants foods of all sorts that are not good for him, how should he be dealt with? When he wants the property of other children, sharp instruments, unhygienic playthings, as newspapers to chew, and fragile decorations which he would be sure to break, the wise parent does not settle these situations offhand. He works to establish a balance between prohibition and indulgence.

One can say definitely of this situation, that children who rarely or never get dirty, who never quarrel with other children, who do no breaking or destroying, who never get any painful bumps or bruises, and who are taught to mind so well that they never disobey or deceive their parents, are overtrained. Not complete adult domination but the right amount of guidance, stimulation, suggestion, and as a last resort compulsion is necessary.

The Child's Conquest over Himself and the Duties and Relationships of School Life. — Upon entering school a child faces numerous problems. For the first time in his life, probably, he is asked to work upon organized tasks that run on from day to day with no end in sight. He must now work in coöperation with a teacher. On the playground he finds numerous other children with desires as individual as his own.

This is the situation that makes the American school so valuable.

When teachers deal with this combination of factors in such a way as to allow the child to work out his own salvation through the conquest of himself as well as by overcoming objects that stand in the way of the realization of his legitimate desires, we have one of the most wonderful educational situations that the world has up to now been able to devise. America is a century ahead of Europe in education of this type.[1]

If he goes to a good school, the child will arise each morning to a new day of conquest. He will have to work out play situations, and these will often be numerous enough to satisfy his heart's desires and exacting enough to furnish exercise for the best intellectual effort he can put forth. Under proper stimulation he will also be just as anxious to deal successfully with the problems suggested by his teacher. When he meets these problems in the right way and is able partially to master them, he is free to the extent that he is able to cope with the life around him successfully. There is no slavery more abject than that of the child who is constantly under the eyes of adults. Whether he be overguarded and protected, held down by traditional Puritanic ideals of parents, or kept most of his time at work not of his own choosing, the results are similar in that his inner

[1] This point is emphasized because the American school is so often criticized. Although we should be frank about its faults every teacher should fully understand its strong points.

nature does not get opportunity to develop through exercise. There is no conquest in this case.

Conquest of School Subjects and Life Work. — As he grows older the child must realize his inner aspirations by dealing properly with school subjects and later on with his life work. To the extent that this struggle becomes one between the individual and the work he is to master, education is successful. The worker is a slave if he will not work without a boss. If he cannot plan work for himself as well as execute his plans, he is a tool in the hands of anyone who desires to exploit him. Therefore, the teacher must work to get children to *study of their own accord;* to take subjects in school because they *understand their need for them;* to read books in literature *because they desire to read them* rather than because they are required; to choose a calling because they know that *they like the work* as well as from the standpoint of earning money.

Such teaching is often difficult to realize. Sometimes realization occurs long after the teaching has ceased. To the extent that a class works of its own accord the teacher realizes true education. Even when entire success is not possible from this standpoint, it is worth working for. A child may seem to be of such nature that he cannot be appealed to. In that case we must show him what is good for him, make sure ourselves that it really is good for him, and then in as inoffensive a way as possible require him to do it. Following this, the superior teacher never ceases to work for inner

response. He is never quite satisfied with his work until this has been developed, and when it has, the result is always greater than the immediate records show.

Thus, freedom is a matter of conquest. The individual must be taught how to secure his own freedom. There is no freedom in a life of ease where one is dependent upon others. There is no freedom when the individual is ruled entirely by his own desires. He must control his wants for the property of others, for food, drugs, play, and work. The person who cannot quit work for proper recreation or necessary rest is, of course, a slave. The one who plays all the time and has not mastered anything well enough to do something useful in this world is a slave of another type. We all realize our freedom by being permitted to work out our destinies under surroundings that suffice to bring about the most development.

Summary and Suggestions for Practice

In this chapter we have considered in detail a factor of teaching which has been a center of controversy for a long time. In American education, a fairly general agreement has been reached regarding some of the important phases of this controversy. These may be helpfully summarized in the form of precepts:

1. Keep in mind that good teaching demands more activity in the classroom on the part of the pupils than on the part of the teacher. Almost every teacher will find it possible to improve his work by learning

to talk less and to devote more time to the study of the reactions of the children.

2. When the teacher takes his place in the background, he must keep in mind that he is still a vital part of all that is going on. In fact he now becomes a much more important and effective element than the teacher who makes himself the main performer. He still has his aims to achieve, but now he works for them with his hand upon the pulse of the class. He no longer hurries along calling upon the children to follow, but persistently, silently, and much more surely the *class moves ahead to achievements won by its own efforts.*

3. Do not forget that a few independent achievements may be worth more to a child than are a large number learned from others.

4. Remember that *initiative and freedom do not mean that "children do just as they please"* or that they be allowed to injure themselves or others.

5. Keep in mind that *first efforts at independent work are likely to need a great deal of supervision and guidance.* Look upon the child's efforts as a process of acquiring freedom through conquest. The fight will last throughout his life. In practice we cannot afford to allow him to injure himself, attempt impossible tasks until he becomes discouraged, or spend his time in activity that is worthless.

6. On the other hand he must be taught to choose his own work and to *continue at apparently impossible tasks until he has by his own efforts overcome them.*

Questions to Emphasize Chief Points in Chapter IV

1. What basic principle of learning is emphasized by class management which has for its aim "the teacher in the background"?
2. How does this type of teaching insure more lasting results? Illustrate.
3. In what respects is an overactive teacher selfish?
4. When in the background how does the modern teacher function?
5. Why should the teacher be careful in beginning this type of work?
6. What was the method of the principal who put himself into the background?
7. What five problems did the primary teacher solve by working more in the background?
8. Is it advocated in this chapter that children be allowed to do as they please? Explain.
9. Describe the process of "freedom through conquest."

Problems for Discussion Suggested by Chapter IV

1. Why is it so necessary that the learner be active and the teacher not so active?
2. Can you think of anything that you have learned recently that illustrates this truth? Possibly you have learned to drive an automobile or to play golf.
3. Have you known teachers whose results have been similar to those of the normal school instructor described in this chapter?
4. Can you describe a "military" principal? Do you know one of the more modern type?
5. Discuss the application of the ideas in the poem "The Clinging Arms."
6. In considering the special value of the American public school in contrast to those of Europe, why do you think the type of work discussed is so essential for education in a democracy?

CHAPTER V

IMPROVEMENT THROUGH SOCIALIZATION

The Meaning and Value of Socialization in the Common School

An Illustration. — The effect of applying socialized methods to eighth-grade arithmetic in the city of St. Louis is described by W. C. Reavis[1] as follows:

"A mock bank was organized in which each member of a class studying stocks became a stockholder. Certificates of stock and other commercial forms connected with banking were worked out and printed. These certificates were then sold in different denominations to the different members of the class. This stock was sold at market quotations which were listed on a bulletin board by 'officials' at different times during the recitation. The pupils thus became conversant very quickly with the terms used in stock transactions and understood the effects of changes in prices on the value of their personal stock already purchased.

"Problems in buying and selling were next undertaken by the class and the results worked out first for the individual directly concerned in the transaction and then for the corporation. The newspaper quotations were carefully noted in this connection, and hypothetical problems were made

[1] "Social Motive in Teaching Arithmetic." *Elementary School Journal*, October, 1917, pp. 264–267.

THE SPHINX

Children with special abilities enjoy projects in which their talents may render valuable service to the group. A boy and a girl who can make a Sphinx as good as the one in the picture help materially in making "natural settings."

up and discussed by the class. When purchases and sales were made and dividends or deficits declared the appropriate commercial forms were used in completing the transaction. This afforded excellent practice in the use of conventional forms, such as deposit slips, checks, and notes."

Following this work a test was given. The problems were taken from the *Stone and Southworth Arithmetic*, Book III, p. 194. The time was arbitrarily set at twenty-five minutes, and work stopped when time was called. The following are the problems, given here to illustrate their difficulty:

1. What is the market value of 35 shares of Northwestern stock at $43\frac{1}{2}$ per cent above par?
2. What would be the value of the same stock if sold at the same rate below par?
3. I receive a stock dividend of $1728. This is at the rate of $14\frac{2}{5}$ per cent on the par value of my investment. How much of the stock do I own?
4. A man exchanges 170 shares of stock worth 103 in the market for a cottage on the seaside valued at $8510. The difference was made up in mill stock at a par value of 50 per share. How many shares were there? Leave brokerage out of the account.
5. A gentleman bought 1200 shares of railroad stock at 115 and was glad to sell it at 58. What did he lose?
6. The Atlantic Steamship Company is capitalized at $8,000,000. The receipts for the year are $16,400,000. The expenses are $14,800,000; $600,000 is put into a reserve fund and the remainder distributed as a dividend. What rate per cent of dividend was declared?
7. How many hundred-dollar shares of mining stock can be bought at 188 for $3750, and what sum will remain? (Parts of a share are not sold.)

8. I receive $2133 as the net profits of stock bought at par and sold at 107. How many hundred-dollar shares were sold, allowing $\frac{1}{4}$ brokerage?

9. My broker paid me $8585 which he received for Old Colony railroad stock sold for me at $\frac{1}{8}$ brokerage. How many shares did he sell at 215?

10. In the N. Y. stock market 50,000 shares of railroad stock were bought at a premium of $22\frac{7}{8}$, and sold the next day at a premium of $26\frac{3}{4}$. The brokerage in each case being $\frac{1}{8}$, required the profits.

"The class work was completed March 15, 1917," to quote further, "and the foregoing test was given March 16. There were 28 pupils in the class. Of these 21 were present and took the test. Fifteen pupils worked all the problems correctly in twenty-five minutes, two pupils had nine right out of nine attempts and three had seven right out of seven attempts."

The lasting influence of the work is shown by the results of the same test given on September 5, 1917, following an interval of 90 days in school (during which time no attention had been given to stocks) and a vacation of 80 days. Of the fifteen pupils who had ten rights out of ten attempts, thirteen again made perfect scores in the same time, one fell to eight rights out of eight attempts, and one was not present to take the test. One pupil raised his score from seven rights out of seven attempts to nine rights out of nine attempts; one from seven rights out of seven attempts to eight rights out of eight attempts; one from eight rights out of nine attempts to nine rights out of nine attempts; one changed from nine rights out of nine attempts to nine rights out of ten attempts; and one who was absent from the first test made a score of nine rights out of nine attempts.

This illustration, which is one of hundreds that

could be given, for socialized teaching now makes up a large part of the work of every modern school, is used as an introduction to a discussion of socialization because it contains elements that every teacher who attempts to do this type of work must never lose sight of. All the possibilities of the social movement cannot be portrayed by any one illustration, but several years' experience in training teachers in the use of modern methods has revealed that they need to know certain facts and principles, which must be used in making the right kind of beginning and must be kept in mind as long as such work is continued. These facts and principles are:

1. More and better results in a regular school subject were brought about by socialization than is accomplished by traditional teaching.
2. These results were lasting.
3. The work was done in an ordinary common school under typical school conditions.
4. In addition to the above, training in coöperation, organization, group initiative, and other important essentials of modern existence was given.

Regular school work in larger amounts, of a more worthy type, and of more lasting quality than could be accomplished under traditional methods is an essential aim of any genuine scheme of socialization. In addition modern life demands that our children receive training that will fit them to take their places as units of the social scheme upon which modern civiliza-

tion is built. With these premises before us in the form of a concrete illustration we are less likely to go astray in applying ideas and principles that are more complex.

A World Movement of Far-Reaching Importance. — It is possible that two important sciences of the future will be sociology and education. Both are at present only in their beginning stages. The human element at the basis of everything pertaining to civilization, together with the fact that man's further evolution must be social evolution, makes scientific sociology one of the most essential as well as one of the surest developments of the twentieth century. Every branch of knowledge, every human activity must eventually derive the right to its existence and even its method of procedure from social science. Education is the big vital element as well as the hope of scientific sociology. Man's possibilities under the influence of these two great sciences exceed anything that the imagination can at this time depict.

It is necessary that the teacher understand the important movement which aims consciously to control social evolution. He should first of all recognize the extent of the idea, its complexity, and the need for a long period of growth on his own part before he can begin to realize many of its advantages.

Socialization Not a Finished Idea. — Because it is new and only in the beginning stages, many find difficulty in seeing the significance of socialization.

Like all new developments this one has yet to go through a long period of growth. Thus the teacher who desires to apply any of the principles will find that he must do a great deal of thinking beyond the limits of everyday procedure. However, this is the type of work that makes teaching interesting to those who desire to grow. It must be kept in mind that educators everywhere are beginning to realize the importance of socialization in education. Even though full realization cannot be expected for a long time, the teacher who is able to gather enough of the ideas to use them for a background will make a great improvement in his work. Thus, it behooves all of us to do our best to understand, make use of, and further this movement.

Three Phases of Socialized Teaching. — In teaching from the social point of view it is necessary to consider (1) the aims, (2) the medium or subject matter,[1] and (3) the method. One of these without the others is likely to result in only partial success. The " socialized recitation " in which children do most of the work, call upon each other, and so on, is only one small phase of socialized teaching.[2] It is necessary first to master the principles and then apply them in a variety of ways. There is no set procedure that can be called " socialization." It is rather a large background of attitudes and principles that cover all the work of the school.

[1] Social values in subject matter are illustrated in Chapter XII.

[2] See Whitney — *The Socialized Recitation.* A. S. Barnes.

Social Aims in Teaching

The Importance of Social Aims. — With a good understanding of social aims, the teacher is able to change the status of all his work. Lessons, which without proper social emphasis would have been little more than mechanical repetition, take on new significance. Even dull routine may be changed so that it becomes a valuable part of the educative process. Discipline, once dreaded by both teacher and children, is changed to *morale*, which is the essence of the new social order. The monotony of the hundreds of daily duties gives way to eager, happy activity.

What Are the Social Aims? — Arranged in order of their importance the chief social aims are:

1. To give the child thorough training in the wisdom, science, and arts of the race as these have been developed up to the present time. The suggestion here is not to turn away from anything of value that we already have because we are developing a new point of view. However, socialization demands that human knowledge be viewed in an entirely new light. The plan of socialization is to make use of everything in the past or present that will serve to develop the future citizen; to do better work in the "three R's," for example, but at the same time look upon these as merely a minimum essential of a vastly larger equipment.

2. Coöperation. This is the great virtue of modern times. It combines all the traditional virtues such as

honesty, sobriety, modesty, and order into a definite, tangible conception. It has the added value of being highly practical. The child can be taught to see numerous ways in which coöperation is helpful in his daily existence.

It is the aim of socialized teaching to use coöperation both as a means and an end. As a means it will make it possible for the school to achieve much more than it did in the past. As an end in itself, coöperation will increase the values of education in proportion to the extent it becomes a dynamic force in those who are educated. Both as means and end it is one of the most practical and useful conceptions of the twentieth century; not that the word or the idea is new; it is only their central emphasis in sociology and education that is new.

As a means, coöperation makes it possible to use the traditional *class* in a way that will help rather than hinder the individual. It makes use of and develops both the strong and the weak, the rapid and the slow, those with good home surroundings and those with negative outside influences. It enlarges the possibilities of operation of the class in proportion to its size, while the traditional method was injured by each addition to the number taught. It extends the scope of education from the school to the home and to the community. Just how these and many other values of coöperation as a means are realized will be discussed in the section on "Socialized Methods" and illustrated throughout the book.

Coöperation as an end in education is the hope of those who wish to make the world safe for democracy. When modern man thoroughly appreciates the values of coöperation and also has undergone thorough training in coöperative activities, civilization will take on new life. The way he greets his neighbor, his attitude toward his employer or his employee, his interest in the general welfare, the way he pays his bills and his attitude toward those who for good reasons are not able to pay their bills, his interest in getting something for himself or for some one else, his ability to make himself valuable as a part of a group, and literally hundreds of the elemental factors of daily life will be lifted to a higher plane. A modern education must train one to know when and how to yield to his fellow man as well as when and how to enlist the aid of others, to the eventual benefit of all concerned. This is the advantage of the great corporation in which hundreds join capital, initiative, and effort in such a way as to bring to each more than he could possibly acquire alone. In the past the ability to organize in this way was regarded as a matter of intuition and native endowment. We are now learning that training can develop such ability in persons of normal intelligence.

3. Coöperation embraces all the other social aims, but their specific statement will make the larger idea more understandable. Among them are *group activities*, individual and *group initiative*, wholesome *competition* which trains the individual to take his place

and keep it under varying conditions, *making use of the different natural social groups* as well as furthering their existence; such groups are the family, clubs, lodges, churches, business concerns, etc. Of all the groups the one least likely to be used in traditional teaching and yet the most obvious as well as the most productive of results is *the school*. Socialized teaching has for one of its basic aims *the full functioning of the entire school in the education of each individual child together with the best possible use of each individual in the development of the entire school*. It might be well to say *schools*, for inter-school activities and interests are vital to socialization.

With these issues before him the teacher should be able to appreciate something of the significance of socialization and to realize its values. He must aim: (1) to teach the subjects of the curriculum better than ever before but so to deal with them that their human values will be emphasized; (2) to make use of co-operation as a definite part of his method as well as an immediate and ultimate end; and (3) to employ in the process of training, every valuable social means that is in existence today, with the far-reaching purpose of eventually elevating the entire social order.

Social Methods of Teaching

There are three special methods that seem well adapted to the aims of socialization. These are (1) the project method, (2) the formation and organization

of natural groups, and (3) a reorganization of the traditional recitation so as to utilize social means and further social ends.

Socialization through Projects. — The project method provides an ideal scheme for socialization. It cannot be described in detail here and it is necessary for anyone who desires to become proficient in its use to read first the literature on the subject and then train himself to apply it. The project idea is one of the most important and most valuable educational conceptions in the field of method and curricula. The method in all its modern application is complex enough to warrant long and careful attention by every teacher who desires to succeed. "It contains much that is both new and old," to quote Bagley. Its present position as the center of discussion is due largely to Kilpatrick and his associates at Teachers College in New York City. They have been able to combine in the project most of the valuable ideas on method that have been developed up to this time. Stated briefly from the social point of view the project embodies:

1. *Some Task, Plan, Investigation, or Idea upon Which a Group May Combine Effort.* — In this combination of effort for a definite purpose the children learn (1) how to work together effectively, (2) to realize the value of combined effort, (3) to divide labor, and so on; and they acquire the distinct advantage of (1) many heads and many hands focused upon something that each individual desires for himself, but which

he could not acquire alone and (2) the stimulation of group loyalty and of social motives of every type.

2. *A Task or Problem Chosen by the Children and the Teacher Working Together.* — It thus has many social advantages over an assignment given by the teacher alone, for work done under external pressure always has its drawbacks. It is also superior to a method which allows the child to be his own guide, for a wise and sympathetic teacher can furnish hundreds of interesting suggestions, valuable advice, and render service in the furthering of the project. We must not forget that the teacher is a distinct social asset both from the child's and the educator's point of view.

3. *A Central Unifying Element of Enough Duration to Hold the Members Together.* — The *common purpose* is an ideal social cement. After working together on a few projects a class and its teacher can accomplish things that would have seemed impossible before.

4. *A Project May Bring the Community and the School Together.* — Since most projects go beyond the confines of the school, they serve in bringing the community and the school together. When the different elements of the community come to be used as educational means to the extent that their values warrant, we shall not only have larger educational means at our disposal, we shall not only see larger educational results, but we may also witness an awakening of the community to the value of public education. Business

men[1] will see in the school a medium for legitimate advertising for products that are of genuine merit, the place where an understanding of the true worth of every enterprise may be established.

Other social values could be given, but something more than an enumeration is essential to establish socialization through projects as a part of school practice. The teacher is advised to read the references given at the bottom of this page as a beginning for his work with projects.[2]

The Formation and Organization of Natural Groups. — Group organization is valuable from two standpoints. First, children need training in the formation of groups for effective work. If all the school children of this

[1] For illustration the story of the Baldwin Locomotive Works is taught in Philadelphia.

[2] W. H. Kilpatrick — *The Project Method.* Teachers College, New York City. Pamphlet published by Teachers College, Columbia University, New York. This gives a fine exposition of the project theory and should be studied by every one who intends to do project teaching.

F. G. Bonser — *The Elementary School Curriculum.* The Macmillan Company. Shows how the traditional curriculum may be revised to embrace materials of more concern to the present generation by basing the work of the school upon projects.

J. A. Stevenson — *The Project Method of Teaching.* The Macmillan Company. Gives the best general summary of the views of different writers. Also contains an extended bibliography.

G. E. Freeland — *Modern Elementary School Practice.* The Macmillan Company. Probably the most concrete and specific treatment. In the chapters on The Problem, The Project, and The Socialization of Instruction illustrations of the workings of successful projects are furnished. How teachers learned to succeed in socialization through projects is also described here.

country receive thorough training in organization, in combining their efforts to discover and solve problems, the next generation will be better fitted to cope with the difficulties that are sure to arise. Second, the natural group is one of the most stimulating factors in a socialized school. A boy will work harder for the *team* or the *club* than he will for himself. He will quit smoking, go to bed early, and urge his fellows to do likewise, when by so doing he can help his group. A frivolous girl will give up high-heeled shoes, silk stockings, and an affected attitude when her club goes on record as approving a simple, straightforward, and wholesome life.

What is a Natural Group? — A natural group is one whose members are united by a common purpose. This is why the project serves the ends of socialization so well. However, a group may be formed with a more general background and with more remote ends than a single project can furnish. Such a group may discover and carry out hundreds of projects, gradually becoming firmly united and efficient through their experiences.

The traditional class was an artificial group. It had no common causes; unless, perhaps, the semi-unconscious cause of pupil against teacher. Ordinarily, however, when their sympathy for each other did not unite them against the teacher, the children worked along separate lines. Each recitation was a matter between the individual making it and the teacher. It

was essentially time wasted by the rest of the class. What value could John's difficulty with an arithmetic problem have for a class whose members either already knew how to surmount the difficulty or were not interested in learning through bothering themselves about John's special troubles?

How an Artificial Group May Be Changed into a Natural Group. — In the chapters that follow numerous illustrations will show the formation of natural groups. In changing an artificial group into a club, society, or organization two principles should be kept in mind.

1. Shift responsibility from the teacher to the entire group. Note that this does not mean from the teacher to the class. The group is made up of the *teacher and the class.* The teacher is there to play a part, and it is here that the first big difficulty is encountered. Just how to weld thirty or forty individuals into a responsible group and at the same time take his place upon the correct level as an element of this group is a difficult problem for the best of teachers. One must not expect very much at first. Both the class and the teacher will gain a great deal with experience.

A teacher who knows how can solve the most difficult problems of organization without taking any unnecessary burdens upon himself and without assuming too much responsibility. On the other hand a class that has been working from the social point of view for a number of years is a great help to a teacher who has done no work of this kind. Observations have been

made of classes that went far beyond the expectations of the teachers, who reported that they would never have thought of asking children to do what was done voluntarily. The teacher should take for his guiding principle the desire to see the children succeed without help whenever this is possible, and when he finds it necessary to help, he should work so as to allow the group to lose none of its initiative.

2. It is always best to rely upon some system or form of procedure. This will serve as an anchor when disputes arise. It makes a more natural settlement to refer to Robert's " Rules of Order " than is possible when the teacher must pass judgment and be his own authority for his decision. When a child objects to some action as being " contrary to the principles upon which this class (club or organization) was founded," even should the question eventually come to the teacher for settlement, there is no necessity to discriminate against persons.

Changing the Plan of the Traditional Recitation. — Project teaching and the formation of a group with a background more general than a project, are, of course, ways of reorganizing the traditional recitation so as to utilize social motives and furnish social training. But there are a number of ways of vitalizing the recitation through socialization when it is not possible to follow either of the two methods already described. To bring about this modification recitations should be based upon the following aims:

1. Every child who recites must speak to the entire group, the class, and the teacher.

2. He must speak loudly enough for every one to hear.

3. He must enunciate clearly.

4. He must arrange his subjects, predicates, phrases, and sentences so that his meaning will be clear to every one.

5. He must avoid waste of time by (*a*) keeping to the point, (*b*) leaving out unnecessary detail, (*c*) avoiding too much repetition, and (*d*) knowing when to stop talking.

These five points could be amplified so as to take up the space of a chapter. If all recitations were socialized to the extent of making them the basis for all discussion, the child who graduates from the elementary school would develop the ability to speak effectively to individuals and to groups. This is a fundamental essential of socialization. At present much time is lost, issues are clouded, unfortunate issues are allowed to win, and numerous other difficulties arise because persons who are well informed do not know how to express themselves, because persons who know little are allowed to control meetings, and because people generally are incompetent when it comes to explaining their actions and motives. This daily recitation in which children talk to each other can be made a powerful element in the furtherance of civilization if the above social features are incorporated in standard procedure.

If we add a sixth point, it is possible at least to point the recitation in a direction that should serve to change the artificial group into a more natural group. This is:

6. Every child should have for his recitation something that will add to the knowledge of the group. Children should be trained to ask questions that are of more than individual importance. There should be a period during the day or at the end of each recitation for individual questions, and children should early learn not to interfere with the work of the class by asking questions or making statements that do not interest others. Careful experiment has shown that third-grade children can develop considerable ability to ask intelligent questions and to make worth-while statements. With increasing age and training, classes learn to do excellent reciting from this standpoint. In the upper grades teachers will find it profitable to require each child to make his individual contribution to each recitation as well as do the regular work of studying the general assignment.

On their part the children who make up the rest of the class owe it to the one who is making a contribution to give him their undivided attention, to criticize his weak points, and to compliment his successes.

The observation of hundreds of recitations which were conducted with these six factors as a basis has convinced the writer that children can be trained to a high state of efficiency in group discussion, that they can and do learn to attack their questions and topics

with a vigor, directness, and a sense of values that would put to shame an average group of adults.

Summary in Suggestions for Practice

1. Plan to *develop a sympathetic understanding of socialization.* The movement is well worth studying because it is sure to hold the center of the educational stage for a long time.

2. *Master the social aims* and keep them in the background in all of your plans.

3. *Employ socialized methods* in order (1) to teach better the regular course of study and (2) as an end in themselves to develop such virtues as *coöperation, leadership,* and the ability to be an *intelligent and loyal follower.*

4. Whenever possible make a natural group of every class.

5. In modernizing the regular or traditional recitation make use of the six principles listed in this chapter.

Questions to Emphasize the Chief Points in Chapter V

1. How did St. Louis utilize socialization in teaching stocks and bonds?
2. What results were obtained in the St. Louis experiment?
3. What four principles of modern teaching were exhibited in this experiment?
4. How important is socialization?
5. What are the three phases of socialized teaching?
6. Describe the social aims.
7. What are the values of coöperation?

8. Describe socialization through projects.

9. How may the regular or traditional recitation be modified by socialization?

Problems for Discussion Suggested by Chapter V

1. Why are sociology and education so important?

2. What is the meaning of the statement that man's future evolution will be mostly social?

3. Can you describe incidents in which coöperation was of great value?

4. A group of children called upon a business man in order to secure his permission to cultivate an idle vacant lot. What are the educational values of such a visit?

5. If a class has mastered the ability to organize for a definite purpose, what value is this ability to each member?

6. Did you ever serve on a committee of adults? What difficulties did this committee encounter because the members did not have training in working effectively with others? If you have not served on such a committee, it would be well to do so at the first opportunity in order to observe the necessity for training in cooperation.

CHAPTER VI

THE CLASSROOM TEACHER AND STANDARDIZED TESTS

The Problems of the Teacher

A study of the attitudes of superior teachers and experience with the measurement programs of several large cities indicate that the growing teacher is asking the following questions on the subject of educational and mental measurements:

1. What should the attitude of the classroom teacher be towards the measurement movement?
2. When should children be measured?
3. What basic principles should be adhered to in giving tests?
4. What elements of school work should be measured, and, if only partial measurement is possible, what functions should be selected for testing?
5. What may be done in the way of attempting to reach definite standards?
6. What errors are frequently made which may be avoided by teachers who are informed on the questions at issue?

Standardized Tests and School Practice

Superior Teachers Show Interest in Standardized Tests. — Of 730 experienced teachers questioned on

this subject one hundred per cent of those who were selected to represent the superior group were firm believers in *proper scientific measurement*. As a group successful teachers can be reported as being very much interested in the measurement movement. They advocated that the work of their children be measured; many were giving tests in their own rooms in school systems where superintendents and principals were still doubtful about educational tests. It does not seem to occur to the teacher who is well read and is doing good work that scientific measurement is more likely to result in unfair reports of his work than is the commonly used method of superintendents and principals of passing judgment without any objective measures. They see the chance of danger from measurement by untrained persons or from the lack of common sense in the use of results, but most of the better teachers think of measurement as being helpful in giving them a better knowledge of the work of the children in their rooms. The idea that their teaching might be judged unfairly as the result of measurement did not unduly disturb them.

Tests Not Used as Much as They Should Be. — Notwithstanding the fact that they are comparatively simple, standardized tests have not been used to the extent that their values warrant. I have at hand data from an investigation of the use that is being made of tests and measurements throughout the United States. Wherever they are used intelligently as a basic part

of school work they are welcomed by progressive teachers. However, even in many of our large cities, where a great many teachers seem to know the value of such work, only a surprisingly small amount of testing is being done.

The chief reason given by teachers and superintendents for not using tests and measurements is that as yet " tests haven't been invented to measure the most important phases of education." They feel that those who have devised tests have given too much attention to mechanical abilities and factual knowledge. However, the only way to overcome such a situation is for the teachers and superintendents to employ the tests that have already been devised in a carefully planned program of measurement, and to demand tests to measure other elements of education that are not entirely mechanical or factual. Demand is sure to result in production.

A second reason given by careful superintendents for being slow to adopt an extensive program of mental and educational tests is the danger of measurement by unprepared and inexperienced persons. Along with this danger goes that from attitudes taken by teachers as well as parents towards the results of tests. It is almost impossible to control the use that may be made of these results. The teacher interested in tests should realize that this objection is a good one. No teacher should act upon the results of a standardized test until a thorough study has been made of every side of the

problem involved. Mental tests are even more complicated, and it would be a safe rule to follow that thorough courses of training in mental and educational measurements should be part of the preparation of every prospective teacher, while those who have gone out without this training should take either summer classes or reading courses upon these subjects.

Some Reasons for Using Standardized Tests.—The necessity for measurement comes from the fact that the more nearly we know whether or not a child is growing in a normal way the easier it is to deal properly with him. Standardized tests of intelligence (always to be used in conjunction with other measures and observations) will provide a basis for judgment as to whether children are normal, subnormal, or supernormal. Tests in addition, subtraction, multiplication, and division indicate whether or not children are below, at, or above normal in any of these functions. Tests in silent reading furnish such information on this phase of reading; the result being that we can deal with children in accordance with their needs. If a boy is up to standard (that set by his school) in arithmetic but below in silent reading, he may be taught accordingly. If he appears to be very far behind in intelligence, he should not be expected — far less coerced — to reach the standards that bright pupils can easily attain. If his intelligence appears to be high, it is likely that there are other causes for his backwardness in reading. It may be due to lack of

training in lower grades. He may be lazy, or he may lack vitality. When we do not have information on these points, it is obvious that we are teaching in the dark. When the teacher knows that John, who is failing, makes low scores in intelligence tests; that Henry, who is also failing, makes superior scores in the same tests, does he not have a distinct advantage in teaching both children? Too often the teacher reports that both failed "because they were not capable of doing the work." Since intelligence tests have indicated that many children lack normal mentality, it has become too common for teachers to suspect the intelligence of all those who do not do so well as they expect. Mental tests can be very helpful in the present state of affairs in order to prevent many children from being underrated.

Proper measurement is an aid to the teacher, not a final indication of anything, and it is his duty to use the means which have recently been discovered to bring to bear as much light as possible upon all teaching problems. We owe it to the child to make use of this means in helping to understand whether or not he is doing what he should. If tests indicate that he is naturally backward, care should be taken to avoid nagging, scolding, ridicule, or other blind and often abortive methods of exerting pressure. When the child appears to be superior, it is only just to him and to society that this appearance of superiority be given a chance to develop. The teacher who objects to the

measurement of the children in his classes is objecting to something humane and necessary.

Suggestions on When to Measure. — Measurement should begin early in the year. When about three weeks have passed after the beginning of school, the children have become adjusted to school work so that they are in condition to be tested. Following the first tests others should be given at frequent intervals. These show progress or the lack of it. If the first tests are given during the first week, the next test will not be a sure indication of improvement as a result of proper teaching. The improvement will be the result of adjustment to school conditions. After a long vacation it takes some time to get into the swing of school work.

It should also be added here that when a second test shows considerable improvement over the first one, the result may be due to the fact that the children have become accustomed to being tested. Failures are often made in first tests and low scores result when children have not been tested frequently. Very often schools report gains when the only cause of such gains is the fact that the children have learned to meet the test conditions.

Tests should be frequent because children should become accustomed to being tested. To learn to do his best under test conditions without becoming unduly excited is something very necessary for every one. Frequent tests also show the teacher whether

or not progress is being made. But there is another and more important reason for frequent tests, the factor of reliability. One or two tests are not very reliable. Many chance factors may cause peculiar scores. But half a dozen tests are likely to bring out the truth. In this work the truth is very desirable.

Hasty judgments from single tests are likely to cause a great deal of trouble. Some enthusiasts contend that such information is better than the old way of merely guessing, but experience seems to show that such information should be guarded because the individual who has it feels justified in acting upon it. When children are judged upon the basis of one or two tests by an individual who feels that he has been "scientific" and who insists upon "doing something about it," the results of such testing are more dangerous than "guessing" because the one who guessed ordinarily did not feel justified in acting very strenuously about it. *Let us repeat, then, tests should come early in the term, they should be repeated often, and should serve as a basis for selection and emphasis. One cure for a test which does not give us the correct situation is more tests.*

Suggestions for Giving Tests. — Too much caution cannot be taken in seeing that the conditions of the test are carried out to the letter. A slight change in directions may cause a big difference in the scores. Standardization is possible only with standard proce-

dure. Be sure that some arrangement is made so that the time may be kept without a chance of a mistake. It is best to form the habit of jotting down on a piece of paper the time when the signal to stop is to be given. The children should be given frequent drills in "attention", which means pencils up; "go", which means write; and "stop", which means cease writing. This practice, in itself, is worth while, for every one may profit by some drill in carrying out directions. Materials should be so handled that uniform conditions will be maintained. When sheets are to be turned over, every child should be trained to do exactly as ordered. Some children work with the hands and the paper in disadvantageous positions. In one half-hour test one child observed by the writer was able to do twenty-five per cent better when his working position was corrected.

At present, we have a number of "standardized" tests which were developed by hundreds of teachers each of whom worked in his own way. The validity of such standardization is doubtful. Let us repeat, the teacher or *anyone who gives tests cannot be too careful to meet the conditions of standardization exactly.* Such work may result in injury to the children unless we know that it was done in a way that makes comparison with standard performance possible. When, for illustration, the teacher is interested in the class and forgets to note the time until after four minutes have passed and then concludes that probably only

two minutes have passed, his group has an advantage of forty per cent over the standard in a five-minute test. This is a typical occurrence.

What to Measure. — First of all, it is necessary to measure enough of the work of a school to get a fair estimate of the work done rather than accidental scores in subjects of secondary importance. Many schools make the mistake, for example, of giving only a certain very popular test in arithmetic. Where observation was made in these schools, addition, subtraction, etc., were frequently given too much attention. This was not due to the fact that tests were given. It merely indicated that they had not been used wisely. In several cases teachers were observed to keep children in at recess in order to have them practice upon the fundamentals of arithmetic after these tests had been given. When one ability is all that is measured; when each room is graphed and charted in accordance with scores in this test; when it is repeated again and again and the graphs and charts are given wide publicity, *numerous superintendents report* that teachers show every indication of an effort to bring up the work in this one field to the neglect of everything else. It is to be regretted that this short-sighted policy has been pursued in some places for years. In one large city certain drills were emphasized to such an extent that the children grew to regard them as being the most important part of their school work.

A Program for Measuring

What Abilities Should Be Measured? — As has been previously stated, we must measure those factors in school work that are fundamental so that nothing of importance will be neglected. Aside from the fact that teachers tend to stress the work that is measured, the chief reason for measuring the fundamentals is that through them we get a fair understanding of the children and their progress.

The chief question, then, is " What is fundamental? " In order of importance the following list has been compiled.

1. General intelligence (with the understanding that present tests are not at all perfect)
2. Silent reading
3. The fundamentals of arithmetic
4. Composition abilities (this order because composition scales seem more accurate than language scales at present)
5. Language abilities
6. Progress in history and geography
7. Spelling
8. Writing

If we measure, we should, by all means, begin at the top of the list. It is unfair to the children when judgment is passed upon them without covering every important factor. The fact that comparisons and general conclusions are usually made when any measuring is done cannot be overlooked. Only recently I talked with a man who had been doing some of this

partial measurement. He was very willing to state that he knew that it was unfair to make general comparisons from the data at hand. Nevertheless, *he made a detailed report in which he made such comparisons*, and practically every one who read the report was more interested in his comparisons than in his data.

Measuring General Intelligence. — In the past few years this task has been greatly simplified by the invention of group tests. At the time of this writing there are a half-dozen good group tests. Those of the National Research Council will be used widely. The group tests make it possible to measure a large number of children at the same time. However, they are less reliable than the Binet-Simon or its revisions, but they are more easily used, and when the teacher understands that they are only suggestive and not final, they are very valuable.

In giving group tests three difficulties must be avoided. (1) Every child must work under standard conditions. These demand that no distraction be allowed. No person should enter or leave the room. No questions should be allowed. Plenty of pencils, well sharpened, should be at hand. No child should be required to work at a rough or shaky desk or in a cramped or strained position. (2) The chances of copying during the test should be eliminated. If children sit close together, some of them may copy from their neighbors. It is best to have a vacant seat between each two children. In many cases signals

of "attention" and "stop" are not heeded. Only recently I observed a university student who succeeded in adding about five points to his score on each test by working during explanation periods. As has been mentioned earlier in this chapter, drills in carrying out orders of this kind are valuable. (3) Often persons succeed in getting tests previous to the time of examination. They are able to practice upon these, and, of course, they find little difficulty in making high scores. This is likely to happen in a place where tests are frequent and where competition runs high.

We should never base a conclusion regarding general intelligence upon one test. The National Research Council tests are made in two parts for this purpose. In addition to the tests the general work of the child should always be considered in judging his ability.

All those who make especially high or low scores, the upper and the lower quartiles of a group, should be retested a number of times. In fact, these make up our most important problem. They should be followed with care, and enough tests should be given them to establish their special standings. When a child is eventually found to be markedly superior, he must be given opportunity to advance more rapidly than his fellows, and, at the same time, he should be furnished with abundant material outside of the course of study upon which to exercise his full mentality. Numerous investigators have reported that the bright child is the most retarded in our school system. Terman has

demonstrated that he usually keeps his relative place of superiority as he grows older and as a rule is normal socially, being neither a freak nor a snob when dealt with properly, but likely to become both when his superior ability is not taken into consideration by his parents and teachers. It is also well known that bright children have been injured by being reminded too often of their superiority.

Those who are eventually classified in the lower quartile should be given encouragement. If possible, the reason for low scores should be ascertained. Some children make low scores in group tests because they have not been given proper training in reading. Even in arithmetic the ability of the child to read is fundamental. A child in the fifth or sixth grade who is backward in reading is sure to test low in group intelligence tests.[1] However, he is also likely to be backward in all school work and in all probability in life work, so his group-test rating is well worth having. When he is a slow reader but of high intelligence his scores in the tests where no reading is involved, such as the "key test" in the National Intelligence Tests, usually show where the trouble lies. Such a child is in grave danger. He should be brought up in his reading by individual drills, otherwise his entire life may be influenced in a negative way.

What Intelligence Tests Do Not Measure. — Intelligence tests, even when they are perfected, will not

[1] Mechanical and auditory tests excepted.

furnish a complete analysis of the possibilities of the person measured. There are a number of useful qualities of human nature outside of mere mental capacity. Consider the following:

Tenacity. — Tenacity enabled the tortoise to beat the hare in the proverbial race. The human being who is without this, even if very bright, will be severely handicapped in life. One who is not so capable may surpass him in everything. Therefore, the child who forms the habit of working long and hard has something that is often almost as valuable as high intelligence. When the two go together, the individual is always superior.

Physical Strength. — Many bright persons lack this valuable life factor, and many who are not so bright get along because of super-vitality. Health or vitality must be considered as separate from mental capacity.

Social Environment. — A bright child may waste his capacity if he is constantly surrounded by an environment that gives him the wrong point of view. If his relatives and friends are thieves, he may become a difficult problem for police officers. When his home atmosphere is narrow, from either the religious or the political side, his brightness often results in extreme narrowness. When he is kept away from books, good music, and fine works of art, it makes little difference how much capacity he may have, he will never develop a taste for these things.

There is one fact that helps the intelligent person

and works against the unintelligent. These three factors, while they are separate, are correlated with intelligence. The old statement, "To him that hath it shall be given," seems to apply here. However, when a child with medium intelligence can bring to his aid any or all of the other three factors that make for success, the outlook for him is a great deal brighter.

Measuring Silent Reading.[1] — After intelligence has been tested thoroughly, silent reading should be measured. Its importance is second only to that of intelligence. In all other school work reading must be done. Speed and comprehension in silent reading are basic elements of school progress. Standardized tests in silent reading tell us whether or not the speed and comprehension of a child are normal for his age and grade.

There are, at this writing, some forty or fifty standardized tests of silent reading. A number of recent tests for the comprehension of paragraphs test comprehension without considering speed. Such a measure is valuable, for, sometimes, but not in the majority of cases, a slow reader stands high in comprehension. In a test where speed is involved his ability to comprehend may not be demonstrated before time is called. Some tests in silent reading may be useful as a check. The process seems to consist of a number of special functions. A child may test low in one test and high

[1] For description of special tests see Problem 6 at the end of this chapter.

in another. It will not take much time to give and score three or four tests. With the information thus acquired the teacher should be able to teach more effectively than he did before measuring silent reading.

Measuring the Fundamentals of Arithmetic. — As has been stated before, it is a mistake to spend time measuring arithmetic if one is limited to testing one subject. The time should be spent on tests designed to measure general intelligence first. Then, before arithmetic is tested, silent reading should be thoroughly tested. This gives the fundamental elements of education their proper emphasis. This statement is repeated because it is desirable to answer thoroughly those who contend that although arithmetic is not so important as some other subjects, it is better to test this than to test nothing. When there is time to give one type of test and no time for anything else, one would better use the time in testing elements that are more fundamental to life.

However, it is important that arithmetic be tested with standardized tests. The so-called diagnostic test may be mentioned as one of the most valuable. This is designed to show whether or not a class is up to standard in all the elements of arithmetic including the various phases of fractions, decimals, several types of addition, subtraction, multiplication, and division. A child may be wholly lacking in some obscure though important phase of arithmetic. These tests indicate

such a deficiency. When discovered, the child who exhibits this lack may be given individual assignments designed to overcome his weakness.

Measuring Composition. — Scales for measuring composition seem to have wide use. One of each is all that is necessary for a room. These may be posted on the wall and the children taught to measure their own compositions. A child should know how his written English compares with a standard for his age and grade even when such a standard is tentative.

History and Geography. — Although there are at present a few tests in these subjects, the vital elements have not been considered sufficiently to warrant much emphasis being placed upon standard performance in them. There is no doubt that there are from fifty to one hundred basic facts in American history that every child should know if properly taught, but there seems to be little agreement on this point at present. Although standardization in these subjects is desirable, no definite suggestions seem advisable here.

Spelling. — The Ayres spelling scale is a valuable device. It should be posted upon the walls of every schoolroom and used daily. It contains only valuable words and furnishes distribution standards for every age and grade.

Writing. — Either the Ayres or the Thorndike writing scale is sufficient. In teaching writing it is very worth while to know whether or not a child is up to standard. It is the custom in many schools to excuse

from writing practice those who reach seventy on the Ayres scale. The child may measure his own writing when such a scale is posted.

Summary of a Plan for Measurement.—In all, about fifteen standardized tests have been suggested here. Of the hundreds that are now on the market those best suited to the purposes of a school must be selected after careful study and experience. The intention here is to outline a practical program for the teacher or principal who is in earnest about measurement but who has not had time to investigate the merits of all the tests on the market. In the future many tests will be developed but the basic principles are likely to change only gradually if at all.

The teacher must not fail to keep in mind the necessity of measuring in all the fields of his program. He must prevent judgments being formed from a partial view of the school. When only partial measurement is possible, he must be sure to keep in mind the order of importance of subjects. Writing, for example, is a valuable subject, but its measurement is not nearly so necessary as is the frequent testing of silent reading.

Standards

What Is a Standard? — Standards, presumably, are ideals for an age or grade. They are supposed to be based upon the work of normal children working under normal conditions. However, many standards now

advocated are merely averages made by pupils of all sorts under varying conditions taught by teachers of different ability.

For What Standards Should the Teacher Work? — In intelligence there is no standard. This is supposed to be a factor that changes very slowly and at most only slightly with education. In silent reading, as long as practice seems to bring improvement, the teacher is justified in trying to reach the ideal. The function is so important that one could not read with too much speed and comprehension. In arithmetic there seems to be little justification for some of the speed standards. A child who can come within fifty per cent of them will not suffer on account of his slowness. Accuracy, however, is paramount here. We are justified in doing everything we can to bring about ideal accuracy. In composition our present standards are, undoubtedly, low. The teacher should work to bring about compositions that are superior to present standards. In spelling, the Ayres list of one thousand words, with some exceptions in the last columns, should be learned by the end of the sixth grade. When this is accomplished, drill in spelling may be omitted. In writing Dr. Leonard V. Koos has demonstrated that no occupation demands a score higher than sixty on the Ayres scale. His study has indicated that children who have reached seventy should be excused from practice. Some children attain this in the third grade. The futility of trying to learn to write better than

well enough is obvious when there are so many more important things to accomplish.

Standardize through Distributions.—Many teachers do not know when a group of children is normal. How many should be at standard, how many above standard, and how many below standard? With most scales a *distribution* is given. In it is indicated just how many should reach the various points on the scale if all conditions are normal. It is the task of the teacher to see that his class is as near a normal distribution as possible or even above in some subjects before the end of the year. A normal distribution is brought about by concentrating upon those children who are below standard and by allowing those who are above to work on some other subject in which they are not up to standard. In case a child is above standard in all subjects, he may be advanced a grade or given extra work of a useful nature. Since reading is so important it may be well for such a child to read good books rather than take drills in arithmetic or writing when he has reached acceptable standards in these two subjects.

Errors to Be Avoided

In every new movement progress is marked by the overcoming of errors. The standardization movement is no exception. Numerous difficulties must be overcome, faulty practices must be eliminated, and programs for successful work must be developed. The

teacher should also be given information which will prevent his being imposed upon by faulty or inadequate testing. Some of these points are treated in the following paragraphs.

What Standardized Tests Do Not Measure. — In using standardized tests to improve teaching we must be careful to use them effectively and constructively. If, after testing, it is assumed that we have measured something we have not, measurement will cause more trouble than its advantages warrant. In the past the following difficulties have been encountered and all who intelligently measure avoid them now:

1. *Average Work Is Not Standard.* — The ordinary "standard" is usually mean or average performance. When a pupil has been measured by such a standard we know how he compares with the average pupil. However, we do not know whether or not he is doing as well as should be expected.

It may be that the average class does not do so well as it should. This is usually the case in silent reading. In the future, classes are going to do much better than present standards require in this subject.

On the other hand, several years of experience in trying to bring about improvement in the fundamentals of arithmetic has been convincing that some of the speed standards are too high for some children. Careful evaluation seems to indicate that the speed asked for in these standards is entirely unnecessary. For life use, half this speed may be sufficient. Since many

persons assume that the "standards" furnished with tests tell us whether or not a class is performing as it should, the teacher should not deceive himself or allow others to impose upon him with this idea. A school should make a tentative decision as to what its standards are to be and be willing to change this standard when new facts indicate that it is too high or too low.

2. *When a Class Is Measured by One Test, the Work of the Teacher Has Not Been Measured.* — For example, a test in silent reading was given in two different rooms. The person who gave the test went about proclaiming that Miss X was a better teacher than Miss Y. He knew, he said, for he "had the facts."

But Miss X may not have been responsible for the high scores in her room. Several other factors may have been the cause. (1) She may have been teaching children of superior intelligence. (2) Her curriculum may have required more silent reading than that of Miss Y. (3) The teachers who taught the class in preceding years may deserve the credit given Miss X.

In any attempt to compare the results of the work of two teachers it would be necessary to: (1) ascertain as nearly as possible the intelligence of their classes; (2) give two tests in each room at least three months apart; and (3) then keep in mind that the difference in the scores may give a partial indication of the difference in the work of the two teachers

in the subject measured, provided, of course, that the intelligence of each class is practically the same. Even after this is done final judgment must be based upon a large number of other factors. There is no doubt that proper measurement can be a valuable aid in judging the work of teachers, but the process is not at all a simple one.

Summary in Suggestions for Practice

1. First, keep in mind the fact that the superior teachers questioned by the writer were in sympathy with proper educational measurement.

2. It will be worth while for the teacher to inform himself upon this subject. So much has been written and said about testing and measuring that the teacher who would grow should read books and when possible take courses that will enlighten him on progress in this field.

3. Keep in mind the program for measuring. One-sided or partial measurement may cause you to over-emphasize unimportant subjects to the neglect of those that are important.

4. Do not forget that the so-called "standard" in a standardized test may not be a goal for all the children of your class to work toward. *It may be that you do not want any of them to attain such a standard*, and in any case, the principle of standardization implies that the records of the children become *distributed* above and below a standard. Individual differ-

ences in original nature necessitate distribution standards rather than fixed goals for every one.

Questions to Emphasize Chief Points in Chapter VI

1. Why is it essential that the teacher understand educational measurement?
2. Why should the teacher be careful about the use of the word "standard"?
3. Describe and illustrate why one standardized test cannot measure the effectiveness of a teacher.
4. When is the best time to measure a class in reading? Why?
5. Why is a standardized test given during the first week of school of little value?
6. Why is a single test frequently more dangerous than no test?
7. Why are the conditions under which a test is given so important?
8. Why is a program for measuring essential?
9. Is it possible to measure a school adequately with the tests developed to date? Why?
10. What subjects should come first in a measurement program?
11. What three factors are important in conjunction with intelligence?
12. How well is it necessary for any one to be able to write?
13. Is it necessary for every child in a room to come up to "standard"?

Problems for Discussion Suggested by Chapter VI

1. What would you like to know about standardized tests?
2. Why is it so difficult to develop accurate measures?
3. Why do we not have a good health test?
4. Why is it so essential that care be used in coming to a conclusion about the intelligence of a child?
5. The suggested methods of dealing with children who make high or low scores are called "positive methods." Carefully re-read

the two paragraphs on this point and try to discover why they are so named.

6. Write to the Public School Publishing Company, Bloomington, Illinois, for a price list of tests. In this list will be described sample packets that contain illustrative tests in different fields. Some of the sample packets may contain material that will prove interesting and educative to you.

7. Make a study of half a dozen children in a school where intelligence tests have been given. Try to estimate the intelligence of each and compare your estimates with the scores made in the tests.

CHAPTER VII

SCIENTIFIC PRINCIPLES IN EVERYDAY TESTING

Applying Principles

The measurement movement has had a large influence aside from the making and giving of standardized tests. It has affected the procedure of teachers in their everyday work. Formerly the progress of a class was judged largely by intuition and sagacity. Now many teachers have learned that, even when scientifically constructed standardized tests are not available, the principles upon which they are based may be employed in making and giving common classroom tests and examinations. The new situation has developed as follows:

1. Teachers have always given tests and examinations with more or less frequency, but the type of tests and the methods of scoring have for some time been under suspicion. It has been demonstrated that the best of teachers differ widely: (*a*) in the value of the questions they have asked in their examinations; (*b*) in methods of giving tests, that is, in the conditions under which the children labored; and (*c*) in methods of

scoring. The same paper in arithmetic has been scored on the per-cent basis all the way from ten to above ninety by the mathematics teachers in representative high schools of the Middle West. Under the observation of the writer the same teacher has given duplicate papers widely different grades when they were handed in a month apart.

2. Frequent informal tests are a necessity in good teaching. Some of the most successful teachers observed in this study report that they find it advantageous to have the children do written work of some kind almost daily. Such exercises train children to express themselves accurately and briefly. They assure training for every one, while in oral recitations, even in the best of classes, a number of children usually fail to take part.

3. Scientific measurement will be established in the largest sense when, in addition to the tests and measures that are now printed and sold, the teacher learns to make use of the basic ideas of scientific testing in his everyday measures of the progress of his classes.

4. Three principles that are applicable to everyday testing are:

(1) Tests must be devised with greater care in order to make sure that cardinal issues rather than illustrative or transitory factors are measured.

(2) The teacher should plan his tests in a general way at the beginning of the term when he plans the units of subject matter that are to be covered. In the

end both time and energy will be conserved by doing most of the work on a test before it is given.

(3) Scoring can be made more accurate and uniform by making a careful study of the material and assigning values before the test is given. This procedure will make the examination more accurate. When the children understand something about the significance and values of the different phases of a test, it will give a more accurate picture of their abilities, for it is not infrequent that failure is merely the result of misunderstanding on the part of the child. He may not understand the question or he may not realize its importance.

In group tests there are usually a few children who make low scores merely because they did not do their best. A well-known educator recently remarked that he had taken an intelligence test with a group of students and that he deliberately chose to save himself for a piece of work he had planned to do later in the day. This adult was justified in focusing his energy in one place rather than in the other. Children whose interests in school work are often artificial are also likely to do the same thing. When the children are totally unaware of the relative importance of different elements in a test a large number are sure to make incorrect emphasis.

Some standard method of giving everyday marks and of scoring ordinary examinations will eventually be developed, and in the meantime the teacher who

tries to apply scientific principles in making everyday estimates of the work of his classes is likely to make progress and derive benefits from such activity.

Some of the practical possibilities of this work are discussed and illustrated here. Once the idea is established there is no limit to the amount of work of this type that may be devised by a teacher with initiative.

Diagnosis

The Importance of Diagnosis. — If the teacher is to secure results he must first understand the condition of the learner. The learner should be studied before tasks are assigned to him, and as he progresses, his condition should be the basis for further assignments. Educational psychology makes this procedure an essential to teaching for results. Its importance need not be dwelt upon further here.

Methods of Diagnosis. — In diagnosis the teacher tries to discover what the individual knows, how he learns, his rate of learning, his secondary reactions, and anything in his life inside and out of school that will help in deciding just what should be done to improve him. Diagnosis for the purpose of getting results in teaching is much more specific than the old dictum " study the child."

After the teacher has found what he wishes to know about the learner he prescribes in somewhat the same way as does the physician for a patient. Teaching

becomes truly professional when done in this way. Specific diagnosis in teaching the different school subjects may be made understandable by taking a number of classroom illustrations.

Diagnosis in Arithmetic. — In each grade it is essential that the teacher first ascertain how well the children have been prepared for the course he is to teach. Illustrations from several grades will indicate the process of diagnosis.

Second-Grade Illustration. — In this grade the teacher taken for illustration had as her course of study the multiplication tables to the fives, addition and subtraction combinations to twenty, beginning addition and subtraction with numbers of more than one digit, the introduction of borrowing and carrying, and concrete work in money, weights, and measures.

She began the work by giving a series of tests. These were sometimes given in blackboard work and sometimes in seat work. The problems in these tests were somewhat like the following:

COMBINATIONS TO TWENTY

1	9	8	7	5	4	3	2	5	4	3	6	8	9	2	1	7	6	5
0	4	3	6	5	7	8	9	9	7	5	4	2	3	6	8	1	0	9

These combinations and all the others possible up to twenty were printed upon flash cards. Each child was tested until the teacher knew how much of the material he knew before it was presented in the lessons. She considered that there is no necessity for

drilling a child on something he knows. Following this, drill was given to each child in accordance with his needs.

After the preliminary work, in which it was found that several children already knew all the combinations quite well, specific drill was given in order to find the learning rates of the different individuals. Here it was found that one child needed ten repetitions to learn a combination which was learned by another in three. The latter also remembered about twice as well as the former. Every child was carefully studied from this standpoint. Thus, the drills were organized to purpose. They were much more than mere repetition. The teacher had a specific diagnostic interest in observing the efforts of the children. The results revealed that such diagnosis was worth all the time it took.

In learning the tables and in the other work a similar program was followed.

Fifth-Grade Illustration. — Here the teacher had for her course a review of long division and the beginning of fractions. At the first of the term a thorough study was made of the state of mind of the pupils relative to arithmetic. Tests in addition, division, multiplication, and subtraction were given. Numerous problems involving some reasoning were also provided in these tests. Finally, tests in fractions were given before the regular teaching of fractions was begun.

A very wide range of ability and varying degrees of

preparation were found. One boy who had practically covered the work was discovered. This discovery made it possible for him to be given work that led to his advancement to the next grade within two weeks. He had come in from another school and had been classified improperly. Another boy soon revealed that he had never learned the multiplication tables. He was put to work learning them at home. He accomplished his task in a short time. No apparent reason was discovered for his lack of knowledge, for he amply demonstrated his ability to master such work. Following three weeks of testing the teacher knew quite well what her problems with the different individuals were.

Diagnosis in Reading. — It is very essential to know the rate and comprehension of each child in reading the ordinary subject matter of the grade. This is often discovered by taking several books, such as a geography, a history, and a reader, selecting suitable places in them for typical materials, and then allowing the class five minutes to read as much as possible. After reading, the books should be closed and the teacher may find out the comprehension by asking from five to ten questions covering the vital factors.

After calculating the number of lines read by each child in five minutes, together with his per cent of comprehension, which is revealed in his answers to the questions, the teacher has a diagnosis of his reading rate and comprehension in relation to that of the class.

When such a diagnosis has been made in three subjects and at three different times for each subject, the rate and comprehension should be revealed quite clearly. It is usually found that the rate of each individual is fairly regular, but the comprehension may take a sudden fall or rise according to the material. If the teacher persists for the number of trials suggested, a fairly accurate diagnosis is possible.

Such work is not difficult. It has been found interesting to children, and the scheme suggested below is not burdensome to the teacher. If a few definite questions on the matter read are asked, the task is much more simple than if the children are asked to reproduce what they read. In the latter case, the ability to evaluate comes in, and the different factors of interest will cause every paper to be different. Reading these papers becomes a burdensome task. The answers to the few definite questions measure the comprehension just as well and relieve the teacher from a great deal of work.

Illustration of a Diagnostic Test in Reading. — Page 24 of the Second Book of Tarr and McMurry's *New Geographies* is used here for illustration of the method. This is a solid page (no pictures), and it contains materials that furnish a splendid test.

The teacher should choose several such pages for test purposes. The material should be considered with great care and a number of questions prepared. These should cover the page in a way to bring out the

thinking as well as the mechanical memory of the child who reads. Comprehension and memory are combined here because we test not only the ability to understand but also the ability to keep in mind long enough to discuss intelligently. Only immediate memory is to be tested, however.

The following questions were used by one teacher in connection with the page in geography given here. These are excellent, but it might have been possible to improve three or four of them.

1. Why didn't the North American Indians build homes?
2. Why did the Aztecs build homes and become more civilized than the other Indians?
3. What reasons besides the lack of homes kept the Indians from becoming civilized?
4. How do animals help civilized people?
5. What animals were mentioned in the book?
6. Did the fact that the Indians were not civilized help anyone?
7. Whom did it help?
8. How did it help them?
9. What did the people of Europe think when they heard about America?
10. What people led in making expeditions to America?
11. Why did these people lead?
12. Where did Columbus land?
13. What direction is it from Spain?
14. What kind of climate did the Spaniards find there?
15. What part of America did the Spaniards soon take possession of?
16. How did the Spaniards have advantage over the French and English who settled farther north?

17. How far north did the Spaniards settle?
18. What did the Spaniards do to the Aztecs?
19. Does Spain still have possessions in America?
20. What is left in America on account of the Spanish explorations and possessions?

The Results of the Above Test. — In this test each child was tested individually. He was taken aside, told to read the page between the two marks as rapidly as possible, but to try to remember what he read because he would be asked some questions about it. The importance of both speed and accuracy was dwelt upon. However, a number of tests had already been given to this class and the children understood the need for both speed and accuracy. The teacher recorded the time taken to read the page. After the reading the twenty questions listed above were asked.

The median (middle score) for thirty-seven children in this fifth grade was: time, 5 minutes 20 seconds; number of questions answered correctly, 6.

Individual variations were great, however, and it was to find the rate and comprehension of each pupil as compared to that of the class that this test was given. Let us consider one case, for illustration. A boy who had been giving considerable trouble in regular work took 9 minutes 20 seconds or almost twice the time of the median. His comprehension, however, made up for his slowness. He answered 16 of the questions correctly, and his answers showed such high quality of thought that the teacher changed her opinion of

him. She had been ready to send him to a lower class. This is an unusual case, however, for slow readers as a rule do not comprehend better than rapid readers.[1]

Another child in this same grade took 6 minutes 50 seconds or somewhat more than the median. His comprehension was also lower. He was able to answer only three of the questions correctly.

Test Adequately before Coming to a Conclusion. — One test like the above will not furnish sufficient information upon which to base a conclusion. There may be reasons why a child may fail to do his regular work at the time he is tested. In the test given for illustration one boy who was known to be a bright student made a score of only *three* in comprehension. This was half as high as the median. Other tests revealed that he could do better. Upon being questioned he admitted that during the test his mind was upon a game that was to be played that evening. The cure for difficulties of this sort is more testing. From six to nine tests of this nature will establish the relative speed and comprehension of the children of any class. The relative speed and comprehension of any child varies very little from day to day or with changing materials. By relative is meant the ability of a child as compared to that of the rest of the class. The absolute speed and comprehension varies greatly with the material to be read, but the materials seem to af-

[1] W. S. Gray — *Studies of Reading with Standardized Tests.* Chicago, 1921.

fect different children in a similar way. If one child is retarded by difficult material, so are the majority of the class, although there are exceptions.

Suggestion for the Use of Results. — First of all, knowledge of special capacity or deficiency in reading rate and comprehension gives the teacher opportunity to adjust school work to individuals. If a child is remarkable in his ability to read both rapidly and intelligently, his possibilities for acceleration are great, for this ability is fundamental to school progress. With such knowledge the teacher may begin to stimulate this child to go ahead. On the other hand, when the teacher discovers that a very slow reader has superior comprehension, as was the case with the boy who had good comprehension but was very slow, an entirely different procedure should follow. Here an intelligent child might have been injured because he lacked the mechanical ability necessary to speed in reading. Such a discovery usually leads to further study of the special case. It was finally discovered that this boy had lacked vitality and had been slow in the three lower grades. He had avoided practice whenever he could. The result was evident, and although his vitality had increased considerably he was not able to read as rapidly as those who had undergone thorough training.

Secondly, in daily assignments the teacher with full knowledge of each child's reading ability in the texts that are in everyday use will know how much material to assign as well as what to expect of the dif-

ferent individuals. If it takes the median pupil in a class 5 minutes 20 seconds to read and select the important parts from a page in the geography, how many pages should be assigned for fifteen minutes of study? If the teacher does not know the rate of reading, how can he decide what length of assignment to make? It has been said that he soon discovers the rate and comprehension of each child by contact in teaching. A number of teachers have been questioned upon this point. It was found that they were woefully inadequate in their estimates. In fact, it is safe to conclude that ordinary teaching does not furnish a teacher with sufficient data upon this point. Numerous recitations were observed where the assignments were so long that the children could not read the lesson without taking time to study it. In one case it was found that *the teacher* could not read his assignment in the time required of the class. In just as many and perhaps in more instances teachers have assigned materials that were not adequate for even the slow readers.

Thirdly, when the comprehension of the class is known, the teacher is able to work with different individuals to better purpose in the discussion. When a child is called upon, the knowledge that he ordinarily comprehends only about ten per cent of the material he reads is worth having.

Probably the most valuable result here is the discovery that the average child fails to understand most of the subject matter he reads. A teacher who has

not made a study of reading comprehension is likely to expect more than is just. Adults are often deficient in comprehension, and they are frequently unaware of this defect. Thus, when the superior teacher finds that the average pupil in his class does not know the simple elements of an assignment just after "studying," he does not feel that the class has not been working. If he knows the rate of reading and the per cent of comprehension of the different children, he knows just about how well each one should have his lesson. In order to discuss assignments in a developmental way the teacher must first have some definite knowledge concerning reading abilities.

Diagnosis in Geography and History. — These are content and thought subjects. In teaching a class the teacher should inform himself of the ability of the children to think; he should know the reading rate and comprehension of each child and, as a special feature of teaching these subjects, he should know how much they have read, traveled, and come in contact with the material to be covered. In one fifth-grade class the Hawaiian Islands had been under discussion for several days when it was discovered that two of the children had lived in Honolulu for several years.

In the upper grades and in the high school the outside reading of some children may be very extensive. In one eighth-grade class in history it was found that one of the boys had read literally hundreds of historical books. His father was a wide reader and had col-

lected a good historical library. The boy had been especially interested in the books on history. It took a definite, organized effort to discover just how extensive his reading had been, but after this the teacher was able to deal with him accordingly. In the same class there were a number of children who had done no independent reading in history.

In testing reasoning ability the teacher should try to discover the state of development of the class in the important elements of historical and geographical thinking. More than ever before, the modern teacher is using history and geography to develop thinking and a social consciousness. A number of tests should be given to discover whether or not the children evaluate, compare, relate, take issue with false statements, and supplement the thought in the books they read by additional thinking of their own.

Illustration of Test for Diagnosis of Thinking Ability in History. — The page used for illustration here is page 131 of Nida's *Dawn of American History in Europe.* It offers some opportunity for thought, although better selections for testing purposes could be found. The one that follows is given for discussion here because it was tried extensively in one of the Seattle public schools.

The following reasons for Alfred's greatness were selected from the page cited. The children had previously read the entire chapter. Then they were asked to read this page again, and with their books open so that

they might consult the material, they were then asked to fill out the following:

Put the number *1* after each of the best reasons for calling Alfred great, the number *2* after other reasons not so good, and a *0* after any statement that is not a reason for calling him great.

1. He was a good Christian man in an age when so many were wicked.
2. He was unselfish, for he lived only to serve his people.
3. He was never cast down in defeat nor cruel to the enemy when he conquered.
4. There arose during Alfred's reign many powerful nobles.
5. The Saxon customs were cruel and barbarous.
6. The nobles hated Alfred.
7. The nobles would not obey the laws unless they chose to.
8. Alfred was himself a great scholar in an age when nearly everybody was ignorant.
9. He encouraged great scholars and men of learning to come over from the continent.
10. Alfred is said to have been the most perfect character in history.

After a test of this type has been given, children who fail completely should be questioned as to their answers. All degrees of ability to make judgments as simple as most of the above statements call for will be found in fifth-, sixth-, and seventh-grade classes. Some of these statements demand keen analysis. A number of intelligent adults, after discussion, agreed that the number 1 should be placed after statements 1, 2, 3, 8,

and 9; the number 2 after 10; and 0 after 4, 5, 6, and 7. Statement 10 is in class 2 because a man may be said to be perfect without adequate reason. It depends upon who said it and why it was said. However, if some one of importance did make such a statement, one could be safe in assuming that there must be some reason for it. Thus it makes a good statement of secondary importance. It is worth more than zero but is not as good as several others. The average child is likely to put it in class 1. A child who reasons well enough to put this statement in class 2 is remarkable. However, some children will do this. A child should learn to think as he reads. The average thoughtless reader would overlook the fact that Alfred was only said to have been the most perfect character. This is a type of slovenly reading that we wish to teach him to avoid.

Statement 6 is sometimes put in class 2. A child who does this and gives as his reason statement 7 may be regarded as an excellent thinker. For if nobles who would not obey the laws unless they chose to, hated Alfred, he must have enforced the laws. The enforcement of laws is not a cardinal reason for a king's greatness, but is certainly a secondary factor. Some kings force only the poor to obey laws. When this test was submitted to high-school classes, a boy with a socialistic bias took the stand that 6 was cardinal. He reasoned that being hated by rich nobles who did not obey laws was the acme of glory. It may be taken

as a doubtful question, but it is important because it serves to call attention to the child whose power of analysis is better than the average.

After five or six tests like the above have been given and the results studied, the teacher is able to explain historical causes and relations in a way that may be understood by the class. When half his class mark statements 5 and 7 as important reasons for calling Alfred great, and when they make similar judgments in other tests, he knows enough about them to adjust his explanations to their level.

Teachers who do not diagnose in this way are prone to make two mistakes. First, they usually underrate the reasoning ability of a few children who are slow at mechanical work but good reasoners. Slow mechanical work is probably correlated with poor reasoning, but there are a few children who reason well but are slow in mechanics. Second, teachers are likely to "talk over the heads" of a majority of children. Children are not likely to be able to comprehend the thought factors of history and geography as well as they will after teaching of the modern type is more common.

The Small Amount of Work in Diagnosis Should Not Cause the Teacher to Avoid It. — Sometimes teachers feel that diagnosis takes up energy and time that might have been devoted to "regular work." Diagnosis is, of course, a central feature of good regular work, but some teachers have the idea that standing before a class and talking most of a period while a few ques-

tions are asked of the children is the only type of work that may be termed "regular." Advancing a few pages in the text is often regarded as another "essential." When these two elements are lacking, it is difficult for many teachers to see that a class period has been spent wisely.

The teacher must cease to harbor this idea of teaching and feel free to spend his time and energy in a way that will best promote the growth of his pupils. He should not be content to go through the traditional motions of instruction without making sure that what he is doing is having the proper effect. The time spent in diagnosis is far from being a diversion. It is very essential that time be spent in this way in order to insure results. This question would not be raised here if it had not been asked so frequently by teachers. There seems to be a fear, especially in city school systems, that time not devoted to covering pages may be wasted.

The amount of work in such diagnosis is no more than that involved in ordinary classroom exercises. In the end it will make all the work of the teacher much more pleasant and less difficult. After a few attempts, diagnosis becomes as natural as any other part of the program.

Summary in Suggestions for Practice

1. Employ scientific principles in giving your everyday, weekly, monthly, and term tests.

2. Make *frequent written work* a basic principle of your teaching practice.

3. Devise tests in order to

(1) Discover the child who has missed something important in his previous training.

(2) Find out how much the children already know about the subject you are to introduce.

(3) Discover learning rates, ability to read assignments, and the quality of thinking of the children in your classes.

4. Remember that time spent in diagnosis is not a diversion or digression from the proper use of teaching time. Keep in mind that this is even more essential than is the " covering " of the course of study. It is necessary to diagnose classes in order to teach a course of study properly.

QUESTIONS TO EMPHASIZE THE CHIEF POINTS IN CHAPTER VII

1. What three defects are common in ordinary schoolroom tests?

2. What practice relative to short written tests is becoming common?

3. What is eventually necessary to the establishment of scientific measurement?

4. What three principles should be applied in all testing?

5. What five types of information about the child may the teacher gather by diagnosis?

6. Describe diagnosis in arithmetic; reading.

7. In history and geography.

8. Why is extensive testing so necessary?

9. In what three ways may the results of the tests in reading be used to advantage?

10. Why do teachers sometimes avoid diagnosis?
11. Why is diagnosis early in the term especially important?

Problems for Discussion Suggested by Chapter VII

1. Why in teaching without diagnosis is it so difficult to secure desirable results?

2. Give reasons for employing the three principles described as "applicable to all testing."

3. Discuss the illustrative diagnostic test in geography. Why is such a test valuable? Does it have any defects?

4. Why is it so essential to repeat tests and to test adequately?

5. Do you think extensive diagnostic testing during the first few weeks of the term would be more difficult than would the presentation of subject matter to children whose knowledge and capacity to learn are unknown?

6. Do you think that exercise of the type furnished by the thought-diagnosis test may improve the thinking of children?

7. Make a diagnostic test in reading. Give your test to several children or adults and note their different performances.

8. Make a history or geography thought-diagnosis test. Test several persons with it and discover the best thinkers and those who read mechanically without thinking.

CHAPTER VIII

SCIENTIFIC PRINCIPLES IN EVERYDAY TESTING
(Continued)

Suggestions for Procedure after Diagnosis

Discover Difficulties Early in the Term. — With data at hand, after careful diagnosis, the teacher can early overcome the factors that are likely to give trouble. Too often we discover after the term is almost over that a bright child may be handicapped because he is a slow reader or because he has been out of school when the multiplication of fractions or some like topic was studied. When the teacher discovers the difficulty and tries to eliminate it early in the year, a great deal of trouble is avoided for both teacher and pupil. The teacher should use the knowledge he has discovered in his diagnosis to remove any handicaps under which he may find children working, and to emphasize and utilize their strong points.

Prevent Failure and Assist in Acceleration. — One of the first uses of the results of diagnosis is to prevent failure and assist in legitimate acceleration. In some cities causes of retardation have been noted *after it became a fact.* If these causes are discovered early in

the term they can often be combated. Thus *low vitality, bad home conditions, lack of coöperation on the part of parents, lack of preparation for the grade, inability to do the work, interests outside of the school,* and similar causes may be overcome in a great many cases. There is only one time to realize fully upon efforts at preventing failure, and that is early in the term. Much may be accomplished if we begin in time. This is why diagnosis must precede all other work.

In the same way small groups may be organized to cover in one term the essential elements of two terms' work. This avoids the disturbance often brought about by traditional "skipping." Early in the work careful analysis is made of both preparation and learning capacity. Those who show that they have the attainments and the ability are organized into a group and given enough work for the two grades. There are no weak places in their development after such work, for they were discovered and organized early enough in the term to allow for proper training. The method of allowing, on rare occasions, bright children to "skip" grades usually left such children without any knowledge of the vital elements of the work in the grade missed.

Study Growth and Improvement. — When the teacher knows the state of development of each child in all the subjects he teaches, he has a basis for the observation of improvement. Without this knowledge, which only careful diagnosis can furnish, it is impossible

to ascertain whether or not improvement is being made. *After all his work on learning, Thorndike concluded that one essential element for progress in practice is provision for the learner to see the results of his efforts.* Thus, when instruction is built upon careful diagnosis, when each child may see for himself just what his progress from week to week is, and when the teacher may assure himself that a certain method is or is not bringing about improvement, the opportunity for effective work is created. The psychology of the situation may be expressed by saying that *we must first know where we are in order to see whether or not we are improving, while improvement demands that the results of practice be made apparent.*

Frequent Tests and Examinations

When Should Tests and Examinations Be Given? — Tests and examinations should start at the beginning of the term and be made a definite part of the work throughout. If they are to be emphasized at one time more than another, that time is during the first half of the year. There are two reasons for this. First, frequent tests serve to show whether or not progress is being made. This is the diagnostic use, and its value has been discussed. Second, when from the beginning classes learn to expect frequent tests, the type of work they do is sure to be better. There is nothing more discouraging to a student who does good work than to find that the teacher is able to make no distinction

between himself and his less industrious neighbor, and there is nothing that will so surely lead a lazy child to become more lazy as teaching which permits him to go for long periods without being "checked up." Therefore, we must give examinations early and late and as frequently as possible.

Frequent Examinations That Do Not Overwork the Teacher. — Scientific procedure has made it possible to give frequent stimulating tests of high diagnostic value without overburdening the teacher. These tests may be of such short duration that they do not even interfere with the ordinary recitation. They are of three types.

1. *Completion Tests.* — In the content subjects, such as geography, history, hygiene, and some parts of English, the completion test serves admirably. In making such a test the teacher arranges several sentences in which important words, those which give the data or the facts desired, are omitted. These may be read to the children, who supply the missing words. Such a test in American history is given below.

Completion Test on the Life and Work of Abraham Lincoln [1]

1. Lincoln was a great man because he:
   1. . . . . .
   2. . . . . .
   3. . . . . .
   4. . . . . .

[1] Please observe that this test calls for thinking as well as mechanical details.

2. He was born in the state of ——, spent most of his life in the state of ——, and died as a result of —— at about the age of ——.

3. He was a (poor, rich) boy and went to school (a great deal, very little).

4. He was educated mostly by ——.

5. For his amusements he loved most (1) ——, (2) ——, (3) ——.

6. Several good books that tell of Lincoln are:

1. . . . . .
2. . . . . .
3. . . . . .

This test covers a few important questions on Lincoln that had been answered in discussion and assignments made the day before. It illustrates a short, specific quiz that is not intended to be exhaustive. It is often worth while, when possible, to mimeograph such tests, but the teacher can use them successfully by reading the statements to the class while the children write the missing words or sentences upon their papers.

2. *Short Questions with Specific Answers.* — Another type of test is made up of short questions that demand specific answers. These are useful in the emphasis of important elements of assignments and to check up children who may not be doing assigned reading. They may be used in any grade. The one given here was used in a university class in "How to Study." For preliminary work they had been assigned Foster's *Should Students Study*. The students were numbered *one* and *two*.

Short Question and Specific Answer Test on the First Two Chapters of "Should Students Study"

Two questions for number ones:

1. What does Foster think is the attitude of the average student?

2. Give the three reasons why college students should study, quoted from President Hyde's speech.

Two questions for number twos:

1. In which place does Foster think students are more serious, the large state institutions or the private colleges?

2. What did President Hyde say of the value of success in studies *alone?*

Here we have two questions for each group. In both cases an easy and a difficult question were asked. Those who could not answer the first question were doing very poor work, while those who could answer the second question had read carefully.

3. *True-False Tests and Those in Which Correct Words Are Underlined or Written Down.* — The true-false test is not very useful, for the fact that questions may be answered by merely guessing. Those in which words are underlined or written down are better because four or five words may be given, one of which is correct.

A True-False Test from a Lesson on Kansas

Underline "true" or "false" in each case.

1. Kansas is larger than Texas. True, false.

2. The main crops in Kansas are corn and wheat. True, false.

3. Most of the people live in large cities. True, false.

4. Farming is the chief industry. True, false.

5. A great deal of money is made from the gold mines there. True, false.

6. Oil in large quantities is found there. True, false.

A Test in Which the Correct Words Are Underlined or Written

1. Kansas is (larger than, smaller than, the same size as) Texas.
2. The main crops in Kansas are (flax, apples, wheat, buckwheat, cotton, rubber, corn, oranges, and alfalfa).
3. Most of the people live in (large cities, in the country, in small towns).
4. The chief industry is (farming, manufacturing, fishing, commerce).
5. (Coal, oil, gold, silver, lead, copper, and zinc) are mined in Kansas.

In giving such tests as these the teacher may have them mimeographed or they may be read to the class and the answers written by the children. Most teachers will have to use the second method, and it serves excellently.

Suggestions on How and When to Grade Tests. — In some cases it has been found advantageous to have the children grade their own papers immediately after the test is finished. The teacher should answer the questions, and a system of grading that is easy to execute should be devised. There are several advantages in having the class grade the papers immediately.

First, the teacher is saved a great deal of work. This is an essential element of good teaching. Every time a teacher wastes his energy doing things that may *with profit* be done by the children he is working against both

his usefulness and happiness. The teacher should look over the papers afterwards and not accept the marks of the children without his own check.

Second, it is very worth while for the class to hear the answers to the questions, or the correct statements, while interest is high. *The individual sees his success or failure immediately after performance.*

Third, opportunity is furnished the teacher to emphasize the factors he deems important. He can show a child the difference between good and poor evaluation at the time the work is done.[1]

Further Suggestions regarding Frequent Tests and Examinations. — First it should be repeated that the most effective way of securing results in teaching is to let the child know that his work is to be tested frequently for the double purpose of making sure that he is working and to give him and his teacher opportunity to see how he is progressing. It has been found that the self-respect of the teacher is increased by knowing at all times just how all the children are progressing. There is nothing more wearing than trying to teach when the teacher is not sure whether or not the children are studying. This makes the whole process somewhat like groping in the dark. The ability to make good

[1] Care must be taken to avoid allowing one child to pass upon the work of another. The teacher should furnish the answers. Also the time spent in going over the papers should not be excessive. Five minutes should be a maximum. The central idea here should be the value received by the children when their work is checked immediately after performance.

tests of the three types suggested will increase with practice. The tendency to use them and gain from such use also grows with practice. Probably the chief difficulty is the overcoming of inertia. Teachers are likely to admit that such tests may be very useful, but, somehow, they never seem to make use of them. Then there is a common practice of short-lived enthusiasm, that is, a good beginning may be made, following which interest soon lapses.

Suitable Monthly, Term, or "County" Examinations

The Modern Attitude towards Examinations. — Examinations in subject matter which merely serve as a test to ascertain whether or not an individual should be promoted or allowed to enter high school or college are fast being done away with. Numerous investigations have showed that honest, intelligent examiners differ widely in the grades they assign to the same paper. On the same paper in Arithmetic, Starch [1] found that teachers in the best high schools of America placed marks ranging from ten to ninety per cent. Other investigations have furnished similar results.

However, there are many places — counties in which adequate supervision is impossible may be listed here — where an examination of some sort seems necessary in order to tell whether or not a child has made a reason-

[1] D. Starch — *Educational Psychology.* The Macmillan Company, 1920.

able amount of progress the first eight years of study. The fact that patrons and school boards in small districts often bring pressure to bear upon the teacher when promotion time comes, as well as the fact that we are forced to employ many teachers with low standards, makes it necessary to check the work in some official way. The county examination has been the method most frequently used for this purpose.

The chief difficulty with this examination is the fact that the questions are sometimes ridiculous and unfair. The worst result is that poor questions, those which ask for useless abilities and facts, lead to emphasis being placed upon results of the wrong type. When these examinations ask for useful knowledge and demand an adequate proportion of thinking, little can be said in opposition to them. However, a reform of this type must proceed slowly. The average rural school teacher is not informed on educational values. A good functional examination would result in unjust failures where children were not to blame for the kind of training they had had. A campaign of education is first necessary. For this reason examinations of the modern type as contrasted with typical old-style examinations are given for illustration here. State and county superintendents are beginning to change to the better type of examination.

A practice that still stands in the way of progress in many places is that of asking a teacher in a university or higher institution to make out the questions in his subject. Too often such a person knows little about

modern ideas in pedagogy. He is merely expert in his subject. The result is an examination which demands a great deal of knowledge, but unfortunately it is often of interest to specialists only. The superintendents could make out much better questions, and, at any rate, if another is asked to do this work, he should be qualified in education as well as in a special subject. In fact, for county examinations, any educator (one with educational training) knows enough about the common branches to make out suitable questions for eighth-grade graduates.

Types of Questions Illustrating Modern Examinations. —

History of the United States

A good examination in one question was stated somewhat as follows:

Discuss what you regard as the ten most important events in American history. Make a clear statement describing each event. Give the facts that lead up to it, and show by describing events that follow why the one you select is important.

This examination might be given to eighth-grade, high-school, or college students, and answers in accordance with their training made the basis for grading. Its advantages are: (1) It allows opportunity for the individual who is well prepared to select from his store of knowledge, (2) prevents accidental high or low scores, (3) requires both thought and facts, (4) demands

initiative. The one who grades such a test has a full opportunity to see the mental power of the child who writes the paper. One defect of this examination is that it is difficult to score accurately. Also children who have not been trained to select and evaluate may fail on this question.

English

1. Punctuate, capitalize, indent, and paragraph the following: if i go to town this morning i shall purchase supplies for the week however i intend to go past the home of a friend and may remain with her until tomorrow george henry and john will remain at home but susie and katie may go with me the climate of this section is such that one can never tell whether or not to expect rain at this time of the year when it rains it is also likely to blow so whenever i go to town i always prepare for every type of weather

2. Complete the following sentences:

(1) John has —— home.

(2) Have you —— the roses?

(3) I asked Henry who shot the bird and he said that he —— it.

(4) Mary will —— Joe how to add fractions.

(5) —— I go to the circus, Mama?

These and like sentences based upon common, useful expressions that have been found difficult.

3. Give the principal parts of the following irregular verbs: *see, do, come, give, be.* About forty are important; enough may be selected for a satisfactory test.

4. Use in sentences the following: *teach, lie, sit, learn, lay, set.* Also use each in its past and perfect tenses.

More questions may be added. The value of this

examination in English is that it tests the child in the *use* of his English. Nothing is asked that does not have common use in written or spoken English. There are no catch questions. The subject is covered extensively enough to test the child's knowledge and ability to use English.

Hygiene

1. Name five health habits and state just how each is to be performed. For example, one health habit is brushing the teeth. If you name this one, tell what you know about how and when to brush the teeth. Treat four others in a similar way.
2. What foods are healthful for a growing child? What foods are not healthful? Why?
3. What should one do in order to take proper care of the stomach? Why?
4. How may we take proper care of the lungs? Why should we do as you suggest?
5. Discuss proper care of the feet, their importance, foot troubles, and their causes, and proper treatment.
6. What should one do if one's clothing catches fire?
7. How would you treat scalds and burns? cuts? bruises?

Here we have simple questions which depend upon a certain amount of knowledge of anatomy and physiology, but this knowledge is of the useful variety. Disease is mentioned only as something to prevent. Bodily organs are to be cared for.

In all the questions given above to illustrate proper general examinations for the term, or for county, or state purposes, some basic principles and precepts

have been kept in mind. These may be stated briefly as follows:

1. Make it possible for every one who has made careful preparation to do something. This is very important when the examination is the only criterion for promotion or for admission to high school. Many children who well deserve to pass often fail because the questions did not allow them to get a start. In every case, those who are poorly prepared and those who are content to do slovenly work will be detected by questions of the right sort.

2. Test for useful knowledge. This will vindicate the modern teacher. Examinations should not deter us in demanding useful knowledge but should become a stimulus for progress. Standards in grading papers should at first be lower than they will need to be later on. This will prevent worthy children from failing because they were taught by teachers who had not been trained in educational values.

3. Test for both facts and thinking, but allow the individual some opportunity to choose among different important facts. The modern world demands that one know facts. But it is not important that he be informed upon every peculiar topic that may come to the mind of a specialist.

The above illustrative examination questions are given to indicate a possible transition from the old encyclopedia type of examination. In the near future we will undoubtedly have reliable standardized ex-

aminations that will test the ability of the child to enter high school, but until that time comes it will be worth while to employ educational principles in the construction of examinations as they are now given.

Summary in Suggestions for Practice

1. Discover early in the term children who may have trouble later on. Prevent the occurrence of this trouble.

2. Use scientific principles in making out your every-day tests.

3. Let those who are doing good work have frequent opportunities to score.

4. Use the three types of tests suggested in this chapter in making your examinations more effective as well as easier to grade.

5. Be sure to devise ways of giving frequent tests and at the same time make less work for yourself. Consider this illustration. A teacher reported that it took him five hours to grade a set of test papers. After planning his tests as suggested in this chapter he reported that he gave better tests, covered more ground, and needed only twenty minutes to grade a set of papers.

6. Emphasize valuable information in your tests. Avoid questions that call for peculiar or unnecessary knowledge.

Questions to Emphasize Chief Points in Chapter VIII

1. When should the teacher know the weaknesses and strong points in her pupils?

2. What causes of failure and retardation may be combated early in the term?

3. What basic principle of learning as stated by Thorndike is made use of in frequent testing?

4. How do frequent tests stimulate good work on the part of the children?

5. Describe three kinds of tests that make this work effective without overburdening the teacher?

6. How and when should these tests be graded?

7. What is the modern attitude towards the "county examination"?

8. Why is this examination still necessary in some places?

9. State three principles that should be made use of in making a county examination.

Problems for Discussion Suggested by Chapter VIII

1. How would you deal with a child who, at the end of three weeks' work, you felt sure, was not able to keep up with the class?

2. Why is it so essential that the learner see the result of his performance?

3. Which of the three types of tests do you like best? Why?

4. Why is it essential to devise tests that will conserve the energy of the teacher?

5. Make a completion test, a short question with specific answer test, and one in which the correct words are to be underlined; choose your subject.

6. Secure a recent county examination and compare the questions with those given in this chapter to illustrate the modern type of examination.

CHAPTER IX

SOME FUNDAMENTALS OF CLASSROOM PRACTICE

Four Fundamentals

It is well to have an understanding in regard to what is fundamental as a part of the improvement of any of the phases of teaching. A teacher who does not recognize the fundamentals cannot hope to become successful merely by using modern methods, for modern teaching presupposes a mastery of the common elements of teaching.

At present the educational world is going through a critical period. We must take special pains to establish a fundamental procedure upon which to base our modern developments. It must be demonstrated that the modern school is doing thorough work in the three R's, that projects go hand in hand with effective drill in the fundamentals of arithmetic, and that a definite course of study is given due consideration. In addition the fundamental elements of the teaching process must be in evidence in all school work. The fundamentals of teaching as emphasized in the practice of superior teachers are:

1. Success in everyday classroom teaching, both in recitations and individual instruction.

The fifth grade "paper" has just come from the "press." Written and mimeographed by the news committee.

2. Adequate, comprehensive, and practical plans.

3. The development of a constructive spirit on the part of the children; recently very well characterized in the word *morale.*

4. Mastery of the elements of daily routine, so that they become assets rather than liabilities.

The Part Played by Everyday Classroom Teaching

All the Best Teachers Succeed Here. — Mastery of technique in the classroom management of groups or individuals stands at the head of the list of elements of successful teaching. In visiting the classes of teachers who have become well known throughout the country for community work, club work, the development of high interest in special subjects, or for other reasons, it was usually discovered that these teachers were masters in daily classroom practice.

A Plan for Improving Daily Classroom Practice. — The teacher is likely to realize his desire to improve classroom practice in the measure that he has some definite scheme with which he lives and works. The following suggestions have been compiled after observing and noting the central features in the classroom work of superior teachers.[1]

1. *Make the Classroom a Sacred Place.* — This is the place where the teacher and the children meet for the

[1] This is not intended to be a complete analysis, but a plan for improving average classroom practice.

high purpose of making progress. It should be the aim of every school to make *good teaching* a central feature, and the work of the teacher during class periods should be guarded and protected from any possible intrusion. Children should be taught that classroom activities are more important than other school activities. The teacher should feel justified in objecting to intrusion. Principals and superintendents should not forget this. In numerous schools there are hundreds of useless interruptions. Little can be accomplished until this point has been won.

2. *Each Member of a Class Should Be a Special Problem for Study.* — With rapid and slow children, bright and dull, talkative and silent, lazy and energetic, and numerous other types before him, the teacher is faced by a problem upon which he can work and improve his methods as long as he remains in the profession. How is it possible to provide suitable tasks for every one, to see that each works upon this suitable task in the proper way; that each child is interested and understands as far as possible why he is asked to work? These and a number of similar questions make the classroom a place where much or little may be accomplished.[1]

Tabulated observations of over five hundred recitations show that in the average class of thirty-five,

[1] It is not necessary for every child to recite every day or for all to do the same amount of talking. Active participation may be shown by responsive listening, intelligent questions, or by individual work.

six children do nine-tenths of the reciting. Ten members of a class of this size form the habit of never reciting unless called upon, and pay little attention while others are reciting.[1]

With such facts in mind the teacher should plan ways of teaching that will reach all the members of a class. He must *avoid working too long with the slow child.* The *talkative child must not be allowed to take up too much time.* Each class presents a different problem. Ingenuity and perseverance on the part of the teacher can change the situation described in the preceding paragraph. It has been done by a large number of teachers.

3. *The Teacher Should Not Talk Too Much.* — Care must be taken to avoid making the recitation period merely one of exercise for the teacher. Of the two thousand or more teachers observed in this study very few had overcome the tendency to talk too much. Most progressive teachers candidly admit this fault and strive to overcome it. In fact, this admission was usually a distinguishing mark. One teacher who had reached a high state of perfection in controlling her own impulses to talk too much was observed frequently for several years. The results of her work were exceptionally good.

4. *Emphasize Important Issues.* — One successful

[1] These observations were made in the schools of Seattle, Washington, where there is probably more initiative than in the average school. They are, therefore, not overdrawn.

superintendent advised his teachers on this point in the three words, "Discriminate, discriminate, discriminate." The teacher should know for what he is working and he should do his best to attain it. It is usually better to have a few well-defined purposes than to try to accomplish too much. A teacher who was noted for getting results explained by saying: "I try *to accomplish something, usually something very simple, each recitation.* I veritably pound upon this issue until I know that it is sinking in. These simple daily elements finally unite to make up the larger results you observe."

Such central issues may be very different in several recitations. In one the teacher may plan to teach the children to think. He will "pound" upon thought. In other recitations drill of a purely mechanical nature may be the central factor. In this case the teacher tries to see that each child gets the needed amount of proper exercise. In still other recitations special facts are selected, or such important activities as co-operation, competition on the higher plane, speaking clearly and effectively, and so on, are emphasized. These definite issues must, when put together, make up a general plan for worthy results.

Work on These Four Elements Usually Brings Improvement. — Too many points are likely to be more confusing than helpful. The teacher should limit the number of issues in his plan so that he can have time to secure results. The four factors given

above represent ideals that the average teacher is likely to find useful in his plan for improving his daily classroom practice.

To repeat, the four big essentials in improving classroom practice are:

1. Classroom work is fundamental. Emphasize its importance.
2. Make each child a special problem for study.
3. Do not talk too much.
4. Emphasize a few important issues. Do not try to teach too much.[1]

Planning School Work

Should the Teacher Plan His Work? — The answer from all the best teachers is unanimously "Yes." They plan their work with care. They leave nothing to chance. Incidental teaching in the haphazard sense is unknown to them, and the slipshod drifting of the slovenly mind through masses of unorganized facts is totally absent from their practice.

However, mechanical rigidity is always avoided. Good plans anticipate independent questions and remarks by students. They are flexible to the extent that issues about which the teacher did not think when making his plans may be brought up and welcomed.

[1] Six points in the socialization of the everyday recitation are given in Chapter VI. They should be considered along with this discussion.

Plans Provide Freedom from Worry. — When the teacher's mind is made up as to what he shall do in a recitation, and when he has prepared himself, he can rest, recreate, or turn to other work. There is no work more burdensome than that which must be done under the constant strain of not knowing what to do next. The superior teacher will not undergo this worry. The constant uncertainty that characterizes the teacher who does not plan his work is extremely demoralizing as well as hygienically injurious. *No teacher can continue long to love his work unless he plans for it.*

Plans Gain Respect of Classes. — The members of every class have a wholesome respect for the teacher who knows what he is about and has some definite organization in his work. The most utter disrespect on the part of classes is often developed for a teacher who may know his subject well but does not take time to organize it for teaching. Many of the pupils think he is really uninformed and fail to note that the difficulty is merely lack of organization.

How to Use Plans. — Superior teachers report that they use their plans as a guide and a background. Plans should never be rigidly followed. The teacher controls the plan and is not tied down by it. As a guide, however, it keeps him in contact with the general scheme of the year or the day and makes it unnecessary to burden the mind by trying to plan while the lesson is in progress. Plans " made up as you teach " are always more or less short-sighted.

It is rarely found necessary to write down the details of a plan. It is usually sketched in rough outline, is suggestive rather than exhaustive, and contains, in addition to the skeleton of the lesson, references that are otherwise likely to be forgotten.

It has been found advantageous to let the children know something of the plans. They should, by all means, be made acquainted with the big issues of the year, and they should realize why such issues are important. Some of the brighter children will go ahead with the work of their own initiative when they know the plan for the year. It is also well to let them know something about the methods that are being used. They may take part in planning a project, and they should be told the essential features of effective drill so they may apply them in practice at home or at times when the teacher is not present.

Types of Plans. — Modern educators are working to avoid the ambiguity of the older type of plan but to retain its idea of definite organization. The formal plans, although they probably had some basic values, led many teachers, so they report, to disrespect lesson plans.

Types of plans used by successful teachers will be considered in detail here. They are simple and direct. The outline usually consists of three points:

1. *A Series of Aims or Purposes.* — These indicate the factors to be emphasized and control the method that is to be used. The aims will vary with the class,

the subject to be presented (its difficulty for the children), and the local community.

2. *A Definite Selection of Subject Matter in Accordance with the Aims.* — Whether he realizes it or not, the teacher selects subject matter each day. It is impossible to teach everything at the same dead level. It is impossible for the children to remember all that is taken up in the lesson. Therefore, in making his plans, the teacher should select and evaluate so that he will emphasize what is most valuable.

3. *A Method of Procedure.* — This includes organization of subject matter as well as a scheme for drawing out interest, initiative, and other like factors. How special results that seem worth while are to be secured, how the various members of the class are to be given proper exercise and tested, how initiative is to be stimulated, all these factors are met in planning the method of procedure.

Concrete Illustrations of Recitations Taught from Plans

Arithmetic. — First ten minutes' drill upon special elements in which the class has been found weak. The drill for to-day will be upon reading problems: a problem will be selected, each child will read, and when he is ready to suggest a method for solution he will raise his hand.

Following this, the six problems assigned for the day's lesson will be worked on the board. Those who had trouble with the problems will put them on the board. Those who had no trouble will be assigned other work. This extra work

will consist of three rather difficult problems. (Not given on account of limited space.)

At this time, those at the board will be supervised. In each case the teacher leads the child to surmount his difficulties.

The next step in the recitation is the answering of questions. Any child may ask questions relative to how the assigned problems are solved. Other children will be called upon to answer his questions.

The assignment for the next day consists of six more problems. The final step is to inspect the work done by the children who had no trouble with the six assigned problems. These now show their work for inspection. The others begin work upon the six problems assigned for the next day.[1]

This lesson has the following advantages: (1) Drill is provided for both rapid and slow children. (2) The teacher gives special attention to those who need it. (3) Those who do not need special attention are provided with useful work. (4) Those who have difficulties are allowed opportunity to ask questions. (5) Those who were assigned more difficult problems were given final attention, while weak students were given time to get a start on the next day's work. This attention to the work of the brighter students gave the touch of recognition that adds incentive. Had the teacher merely assigned the extra problems without making a final check on the work, the children soon would have lost interest.

History. — The aim for the day is to develop an insight

[1] These plans are merely illustrative. The teacher must always fit his own plans to the conditions under which he works.

into the problems of territorial expansion. This general problem is being emphasized during the week. Statements of facts and extended discussion make up the work of the period.

The method is to carry on a regular recitation upon six pages of the text. In addition, five children report on special literature they have read, and any child who desires may report on special reading that is provided for those who have time for it.

For the first ten minutes a "free for all" discussion in which the teacher serves as umpire will take place. This will be followed by the five reports, each report being followed by a short discussion by the class. Finally the children who did extra work will be given a chance to report, and such reports will be followed by questions.

The selection of subject matter is taken care of by the teacher, who brings books to class, makes the assignment in the text, and refers the five children who make special reports to suitable literature. She also gives these children advice as to how to handle the topics.

We have here, first of all, an important problem. It is considered in the text and in reference books. Children make special reports; this gives opportunity and occasion for individual research, regular chances for extended recitations, and organization.

English. — The first five minutes devoted to rapid-fire drill on the use of *lay* and *lie* with special attention to their past and perfect tenses. Sentences will be made up during the recitation. The teacher takes a few minutes here to make sure that he has the correct forms in mind. (Many teachers are not certain about the past and perfect tenses of these words.)

This being a lesson in oral English, ten children were

previously named to make short speeches. Each speech is to be limited to one and one-half minutes, and is followed by discussion of one minute. With a class of thirty, ten children speak each day. This gives each child an opportunity to make a speech every third day. The aim is to develop clearness, organization, speaking to the point, correct usage, and fluency.

The assignment for the next day is now made. It is focused upon the correct usage of *teach* and *learn* in all their tenses. Ten children are selected to make speeches for the next day.

Again we have a definite scheme of working for special aims. Drill and discussion based upon the assignment open the period. This is followed by provision for exercise in the abilities to be developed. Running throughout is evidence of the selection and emphasis of useful subject matter.

No one can fail to see the clear-cut emphasis upon definite aims, definite methods of attaining these aims, and selection of subject matter in accordance with the aims and methods in the three plans given above. Such plans make the work of the modern teacher simple, direct, and effective. They prevent lost motion. They are not burdensome; but they provide freedom from worry and make profitable work fairly certain. If a supervisor should ask a teacher who has such a plan in mind, what he intends to do tomorrow, why he intends to do it, and how he intends to do it, he need not falter in giving his answer. This is the test of proper plans for daily work. If the

teacher will ask himself these three questions and answer them in a satisfactory way, his plan for the next day is complete:

What to do? — the selection of subject matter
Why? — the aim
How? — the method

It is not often possible to answer these questions without doing special work in preparation. In such cases it is easier to prepare than it is to worry about lack of preparation.

The special merits of plans based upon these three elements are: (1) They are specific. (2) The scheme is understood by teachers and is comprehensive enough to cover any set of ideals. (3) The scheme is flexible. It will fit into any phase of teaching. Even if a test is to be given, the teacher should have an aim for testing, he should select his material with care, and he should give the test in a way that will result in fairness to all and provide a genuine test for the abilities that are being investigated. (4) Such plans help the supervisor. Too often "plans" are useful merely to allow training teachers or supervisors to see whether or not the teacher is making preparation. Not infrequently the planning of lessons is dropped as soon as the supervision or training ceases.[1]

[1] Many training schools are now using plans of this new type. The writer used them for three years as principal of the training school, State Teachers' College, Greeley, Colorado, and for four years as director of practice teaching at the University of Washington.

Plans for the Year, Term, Month, or Unit. — The first essential in planning for units is a survey of the entire course of study with a careful consideration of the outlines of study for the grades or classes just below and above the one for which the general plan is being made. This need not take much time, and it makes possible a much more intelligent attack upon the work at hand. This should be followed by a second survey which takes in books, both text and reference, and other equipment that are at hand. The teacher then knows just what is possible with the material with which he has to work. However, the plans should not be completed until after a study of the class. The first three weeks should be devoted to a careful testing and diagnosis of each pupil.

After these preliminaries the plan for the year may be made. First of all the immediate course of study should be considered and the large aims noted. At this juncture or earlier a conversation with the principal or supervisor is important.

The aims finally decided upon should be kept in mind throughout the year. In accordance with the aims the course of study is studied and marked. Some parts of it are to be dwelt upon much longer than are other parts. When a careful study of this kind has been made, the course of study loses its terrors, and with average classes the teacher finds plenty of time for a great deal of profitable work, in addition to requirements. There will be time for home projects,

dramatizations, discussions of outside interests, supplementary reading, and other valuable features of modern teaching.

The next and final step is a general plan of the methods to be used throughout the year. These should be based upon the aims, the course of study, the school equipment, and the natures of the children. Special methods should be planned, dealing with every issue in the larger aims for the year. If a dramatization is planned, it may at this time be given its proper place. Drills of various types for the different elements of the course of study may be devised. Methods of developing new units may be considered. Reviews may be planned. In fact, the possibilities of the entire year may be considered and nothing left *entirely* to chance inspiration, although the plan does not prevent the use of any good idea that may come up later on.

In the same way the work of a term, month, or unit should be planned in advance. Such provision assures the teacher that he will not suddenly discover that his work "is only just begun and the term is almost over," as many teachers are known to report each term.

Illustrative Plan for Term — Seventh-Grade English

Background Principles

1. English is taught in order to teach children to speak, read, and write fluently, effectively, and correctly. These

points are in the order of importance as they shall be employed throughout this term.

2. The core of the composition course should consist of a few permanent activities of the project type affording systematic practice in English, oral and written.

3. These activities should represent some definite social English form, distinguishing them from activities of other departments.

4. These permanent activities should be broad enough to admit of minor activities, fitting for any community and allowing for coöperation with other departments.

5. All technical matters of spelling, punctuation, capitalization, vocabulary building, and organizations shall, as far as possible, be centered about these activities. For example, a class using a post-office activity centered all technical matters around civil service examinations, making promotions dependent on correct punctuation, spelling, and writing. The class may be divided into clans for the study of "The Lady of the Lake," using clan organization and rivalry in elimination of useless "ands," commonly misspelled words, and mistakes in form.

6. Only as much technique will be taught at a time as is to be required in practice.

Aims for Term

1. Of the Pupil:

a. To use English as a tool that will secure for him individual success in the new school environment.

2. Of the Teacher:

a. To establish relationship between the English class and other classes as a necessary end to successful teaching of English.

b. To increase powers of observation, organization, and expression.

c. To train the mind to demand sentence completion and its signification by proper inflection and punctuation.

d. To fasten by practice elementary knowledge of capitalization, punctuation, and agreement.

Selection of Subject Matter

Oral English

Occasional reproductions of certain incidents found in literature work and in outside reading. Original stories suggested by study will limit the telling to one episode and avoid digression. Will emphasize in State Readers for the Seventh Grade, 84, 89, 100, 151, 189, also "Studies in English," Study 338.

Will stress simple selections from State Series, Book Seven, history stories, science readers, and any other easy supplementary texts at hand.

Composition

Paragraphs drawn from class work in history, science, or literature. For example, explain how to make a plan, a box, or a cake. Write up a sample experiment in science, say an experiment in air pressure. For work in paragraph structure will emphasize "Studies in English," Book 3, 229, 230.

Other experiences, real or imaginary: We shall write letters to other schools telling of first experiences in the new grade. As another kind of activity will suggest to children as follows: "Imagine yourself in Plymouth in November, 1620. Write a letter to a friend in England telling her of some one phase of the first Thanksgiving Day."

Rules of English (Grammar)

Practice in sentence completion and quick recognition of incomplete and complete groups. Material for practice to be collected from class work in all subjects and activities.

Dictation exercises and the rewriting of unpunctuated paragraphs.

Test the vitality of this work by noting whether pupils show an increasing tendency to write and punctuate correctly.

Emphasize "Applied English Grammar," 51 to 129, "Studies in English," Book 3, Lesson 1.

Emphasize kinds of sentences. Questions, statements, exclamations, and commands drawn from class work in all subjects, giving special attention to "Studies in English," Book 3, Lessons 12, 13, 14. Test the vitality of this work by the ability of the pupil to give a simple explanation or description without awkward change from the command to the statement form, or the reverse.

Drill on Mechanic

Training in correct form of manuscripts, schedules, notices, notebooks, or any work required in school. Capitalization of titles, proper names, seasons, days of week, names of subjects. Some of this will be done in connection with spelling and dictionary period. Punctuation: terminal punctuation, appositives, series. Spelling of plurals and of common abbreviations emphasized in connection with spelling — dictionary period.

Shall begin all drill work with words in immediate use: teachers' names, their titles, capitalization of subjects, etc. Work in capitalization and punctuation to be based upon "Studies in English," Book 3. School terms often mispronounced shall be given special attention as *athletics, mathematics, recess, geography, laboratory, history, American, Italian,* etc.

Will practice on word completion, the sounding of final *d's, t's,* and *g's,* as in *coming, doing, nothing, climb.* Errors will be taken from pupil's conversations. For practice on

final *g's* will use "The Cataract of Lodore," "Studies in English," Book 3, Study 330. For final *d's* and *t's* will use "California's Cup of Gold," Seventh Reader, page 319. Drill upon special grammatical errors emphasizing the overcoming of the use of *this here, that there, those;* confusion of *in, into; between, among;* agreement of verb with simple subject. Special attention to sentences beginning with *There.*

Methods to Be Employed

A Success Club or Rotary Club will be formed. Purpose: A survey of the work to be accomplished and the means of success. The following types of organized activities will be used:

1. The term's work, the schedule. Children will decide on the value of each subject. Get from teacher named in schedule a statement of what will be expected of them. Memorize schedule. Be able to write it with correct spelling, proper abbreviations, and capitals.

2. Children plan for the day's work, study hours, and recitation. Discussion of relative benefits of each plan suggested and selection of one.

3. Each child give a name to each paragraph in history or English lesson. Outline a story or selection in reader, or a lesson in history. Tell the story from outline.

4. The recitation. Each child will make a list of class procedure in different classes. Use different kinds of recitations — the questions and answer method, and the topical recitations. Study of method of preparing for either kind of recitation, and rules of conduct governing it.

5. A Recreation Department in the business club, when programs, dramatizations, and stories could be presented and the relation between a man's leisure hours and business successes emphasized.

6. An occasional imaginary banquet with after-dinner stories and funny speeches.

7. A Corrective Department in which members guilty of poor English may have corrective exercises.

8. An Etiquette Club. Discussion of the part good manners play in success. Formulation of rules of conduct in classrooms, balls, and on grounds. Ways and means of forming good habits.

9. Writing of diary of daily experiences, or a column for school paper that shall gain sympathy for beginners and be a help and inspiration to other beginners. Will consider here Cuore's *Journal of a School-Boy,* Mary Antin's *The Promised Land.*

10. A Story Teller's Club. Famous quests of all lands and ages.

Results Expected

1. Ability to stand before the class and tell a short story or talk for a minute or two in any class on one phase of a familiar topic in complete sentences, properly inflected and reasonably free from useless *ands,* the double subject, and the dropping of final letters.

2. To read a simple poem or paragraph intelligibly, inflecting properly for sentence completion, so that the ideas are conveyed clearly to the audience.

3. Ability to write a short paragraph with correct punctuation, and without awkward change from the command to statement form in the same paragraph and reasonably free from errors.

4. The ability to stick to the point in class discussion or in oral or written composition.

5. Ability to recognize complete groups of words, and the habit of properly punctuating them in written composition.

6. Habitually correct pronunciation and spelling of words drilled upon in this grade.

7. The habit of handing in all work punctually and in proper form.

8. The habit of listening courteously and giving constructive criticism.

This plan was tried by a number of teachers in a progressive educational center and modified by the writer in accordance with the findings of these teachers. It may not be possible to apply all the specific methods suggested under that division, and it may be noted that it was impossible to draw a close line between aims, selection of subject matter, and methods. However, we have here a good illustration of a complete term plan that has been given thorough practical application. The teacher with such a plan is sure to do better work than he could without it.

Summary in Suggestions for Practice

1. Make up your mind to *excel in classroom practice.* Place this first in your plan for improvement.

2. Emphasize in each period a few important issues. Do not try to teach too much or to teach everything at the same high level. *Discriminate.*

3. Give every child the exercise he needs. *Study each child* and make his needs a special problem.

4. Do not take for yourself the exercise that the children should have. Talk less; *guide and inspire* more.

5. Plan your work by making your aims, selection of subject matter, and methods focus so that the results of each day's work will further the larger issues of the unit, term or year.

6. Avoid the worry and distrust to which a teacher who does not organize and plan his work is sure to be subjected.

Questions to Emphasize Chief Points in Chapter IX

1. What issues seem fundamental in the work of superior teachers?
2. In what ways do superior teachers work to improve their daily classroom practice?
3. Why should the classroom period be made sacred?
4. In what ways may superintendents and principals help in emphasizing the importance of classroom work?
5. How should the child regard his recitations as compared with other school activities?
6. In what light should the teacher regard each member of a class?
7. How many children do the reciting in an average class of thirty-five?
8. Why is the ability to discriminate so important in superior teaching?
9. What are three advantages of proper plans?
10. What elements should a plan contain?

Problems Suggested by Chapter IX

1. Why are superior teachers so much alike that they were found emphasizing the same principles in trying to improve their work?
2. How do you think the four fundamentals would apply to your own work or, if you are not teaching, to some school with which you are acquainted?

3. How much do you think is lost to effective teaching by unnecessary interruptions in the classes of a teacher during a school term?

4. To what extent do you think a child who has formed the habit of not reciting can be changed?

5. Why do so many children take so little part in classroom activities?

6. Why do classes disrespect a teacher whose work is not organized?

7. Would it be possible for teaching to be lowered in quality by following plans too closely? Illustrate.

8. Discuss the first sentence in the illustrative term plan for seventh-grade English. Each of the six points are given in order of importance and the sentence is designed to cover the fundamental issues in teaching English.

Buying and Selling

Each member of the class "makes the change" on a sheet designed especially for effective drill in this important process.

CHAPTER X

CLASSROOM PRACTICES (*Continued*)

Morale and the Details of School Work

It is a part of a conscious purpose to associate in the same chapter morale and the details of school work. Morale, although one of the most powerful social forces, is dependent upon the successful operation of many apparently small details. The development of morale rests upon the proper execution of things of an apparently mechanical nature. In this chapter, therefore, the reader should consider the relationship that exists between these two apparently widely different fundamentals of teaching.

Morale

Morale a World Force. — The morale of the people of a nation, an army, a state, a city, a school, a family, or even of an individual is now being recognized as a basic factor in determining what each may accomplish. It may be described as a power possessed by groups or individuals that is the one necessary element to human success, especially in difficult situations. It embraces a large number of qualities and may bring success in

apparently hopeless situations when many of the physical obstacles seem to be insurmountable.

Psychology has long recognized that the "attitude" is a controlling factor in many types of mental action. In an ordinary perception the attitude or set of consciousness is an important factor in what the individual may see, hear, or "sense." In common parlance we often hear such statements as "a person looking for trouble can easily find it," "Love is blind," "The wish was father of the thought," "He saw what he wanted to see," and so on, while careful psychologists have come to the conclusion that such a simple perception as that of seeing and recognizing an ink bottle depends first upon the "frame of mind" or "set of consciousness" of the observer.

Morale, however, contains many other elements, and it appears in a great many degrees of intensity and in widely different forms. One of the most important elements is feeling tone; even in common everyday life the establishment of proper "tone" is extremely important. The morale of an army is likely to be better in battle than at times of waiting. Excitement may lift an individual or a group to great heights of achievement. The situation in such a case brings the feeling or emotional tone that creates a temporary mental and physical "drive." After the victory or defeat the morale must be sustained. It is often as difficult to withstand victory or prosperity as it is to recover from defeat.

The teacher should realize that by building up the morale of his school and of each child in the school he is not only establishing the force that will make for achievement in school work but is providing a powerful smoothly running organization for purposes of learning and development. He is also working for a result that is to extend much farther than the school; he is helping in the creation of a world force. Such a force is essential in the establishment of world peace, temperance, universal brotherhood, or any of the great world aspirations of thinking men and women. It is also a key to civic duty in the home community, the making of a good neighbor, the establishment of charity in the home, and other commonplace practical virtues which must precede all larger aspirations.

Morale in Military Science. — Morale is the term used to describe the " state of mind " of an army or of an individual soldier. Military science has discovered that the mental, moral, and physical status of a man or a group of men may be developed by definite courses of training, and the establishment of proper external conditions. Back in the days of Rome we are told that one day a certain Arius looked over the oarsmen in his galley and saw a man whose outward form was not exceptional but whose oar was bent at each apparently easy stroke, and when he noted carefully the attitude of this man, he made the remark that strength is a quality, not a quantity. Those who have read *Ben Hur* know that the training and past experience

of this man had developed his *spirit* as well as his body. This was what Arius saw in the stroke of his oar. When Wellington had defeated Napoleon at Waterloo, he is reported to have said that the victory had really been won long ago on the play fields of Eton and Rugby. Here had been developed the physical, mental, and moral courage and ability to execute orders that had won the world's most famous battle.

In the great World War, where science was employed in every possible place, morale eventually became the most important issue. In a definite campaign to develop his accomplishment possibility to the highest point the morale of every soldier [1] was made a primary issue. The thousands of stories of what men did as the result of such training are convincing of its effects. The means used to a defensive end should not be ignored by those who are engaged in the great constructive campaign for individual and world betterment through education.

The devices used to develop soldier morale are not so important as are the principles. The *art* of the teacher must employ the *means at hand* to *fit the conditions* under which he must work in the formation and use of devices. Underlying principles cannot be changed extensively, and when once established in the mind of the teacher allow for the development of any number of devices.

[1] This discussion does not indicate that the school should use army methods. It merely calls attention to the part played by morale in training men for war.

Some of the principles used by military leaders in the great war were:

1. It was the plan to spend years in the training of the spirit of accomplishment, so that no task would be so large as to discourage an army so trained; the first principle being the recognition of the value of this *training of the spirit.*

2. Time and energy were spent without stint in establishing thoroughly in the mind of the soldier the *righteousness of the cause* for which he was fighting.

3. It was a part of the plan to convince him of the *importance of his own efforts* in behalf of this righteous cause.

4. Every conceivable device was used to cause the soldier to *coöperate* with the different groups, from that in command of the lowest petty officer to the entire army. Everything that social psychology could suggest was tried.

5. *Physical handicaps* to proper training were removed when possible, and when they could not be removed special methods were used in meeting and overcoming them.

6. When work was not being done *recreation* was planned. The soldier must not be left without opportunity to work or play during any of the hours of the day.

7. The officer became a central issue in the development of this morale. It was found that there was no element in his makeup so small but that it might have some influence upon the morale of his soldiers.

Morale in the American School

If morale proved to be of such importance in the waging of war, it will be far more important in the building of a world civilization. The teacher, engaged in the occupation of community, nation, and world building, does not feel the immediate pressure that urges on the officer engaged in getting soldiers ready for a battle, but if the teacher can be made to see the tremendous importance of his task and the far-reaching results of his activities, he is more likely to see the need of utilizing such principles as those described in the foregoing section, in the school.

In the application of the above principles, superior teachers have been observed to work as follows:

1. They see in each child a future citizen. They know that the use of force, domination by virtue of position, retardation, elimination, or other easy methods of meeting the immediate situation do not solve the ultimate problem. Therefore, they plan to work with each child and each group of children with the aim of building up an individual and group spirit, which will not only make for greater effort, great accomplishment, and a happier immediate situation, but will continue with the children with whom they have come in contact, making them larger and stronger as the years go by and eventually cause them to play their part in making the nation and the entire world a better place in which to live.

2. They work to establish in the child's mind that oneness of feeling or unity with the better things of life. Long before there is any possibility of dissension the superior teacher has established in the minds of the children the feeling of unity and the knowledge of the value of what is being done, of the righteousness and necessity of everything that is a part of the plan of work. It is practically impossible to disturb seriously such a class. The children grow to feel that the success of their school work and of school enterprises is absolutely necessary.

3. *The recognition of the child's effort.* The child must be convinced that what *he* is doing is of importance to the different causes in which *he* is enlisted. The teacher should spare no effort and be willing to consume considerable time in *establishing the child in the belief that what he does counts.* Work should be definitely planned to bring legitimate success to every child. The following quotation may be of interest at this place.

"What can be more depressing than continuous failure in whatever one undertakes? As our classes are now arranged and school work ordered, it often happens that month after month no children have any legitimate opportunity to succeed. If a chance to leave school occurs, naturally they take it.

"In the American school, and even in many American homes, such artificial restrictions are often made that the most obvious opportunities for self-assertion by the children, and the most tempting opportunity for social success, consist in breaking the rules of the school or in disregarding the exhortations of anxious parents. I have the report of one

school where the boys made it a point of honor to break all the rules of the school, and they counted that day lost when they did not succeed. Such achievement by a boy of this school was a distinct social success for him, and of course it gave the boy the satisfaction that comes from success."

On the other hand, good teaching requires that success be worked for. But let us quote further from the article just mentioned. "The pathology of success is really a very large subject. It concerns not merely overstimulation that comes from continued success without normal relaxation, but the extreme self-consciousness of success that occurs in the case of bright children of unstable nervous organization where it develops into ego complexes, and finally, perhaps, into megalomania.

"Most tragic of all perhaps is the fact that the stimulus of success is intoxicating, and is likely to make one heady. Hence is needed the antitoxin of failure. In the early stages this is a valuable remedy for the ego complex.

"The need of success as a wholesome stimulus is universal. Children have an enormous appetite for it. They need large doses. Adults become depressed without it. It is vital for the normal. The diseased are often cured by it. . . .

"It is a problem of giving each case something to do that is worth while, and of placing each individual in a situation where success is likely to occur; and when we recall the essential psychology of success we find that this is possible in many forms of work, and that the psychological success in doing ordinary work properly, in itself, is a stimulus to further work, and often the most important condition of mental health. In this sense every worker can give himself the benefit of this wonderful tonic." [1]

[1] *Success and Failure as Conditions of Mental Health*, by W. H. Burnham, of Clark University, President of Massachusetts Society of Mental Hygiene. July, 1919.

4. *Coöperation* is made a central issue. The child is made to feel his value to others as well as their value to him. Even in the details of common everyday politeness to others, he is taught to see the larger issue of human coöperation as a background and necessity. He learns that all his actions concern and influence others, and he is taught in such a way as to make coöperation a pleasure.

5. Superior teachers leave no stone unturned to make the *physical situation* further the plan for the development of morale. Everything that it is possible to do is done to make the child feel comfortable and physically at ease. While physical development is a special aim in education not secondary to anything, the fact that physical well being and comfort are conducive to morale must also be kept in mind. Consider the following illustrations:

T. R. Cole, Superintendent of Schools at Seattle, Washington, reports a fifth grade that had caused a great deal of difficulty. Three different teachers had found the pupils impossible to manage. Early in the morning the work would usually be excellent, but, before recess, control became impossible. Every child in the room either was nervous or refused to pay attention to his work. An investigation of the situation revealed the fact that when the seats were being placed, no one was present except the janitor. He had placed the desks and the seats several inches too far apart. When the seats were changed, discipline was no longer a problem and an opportunity was provided for building up morale.

A student in a higher institution reports that on one occasion he found it necessary to have a tooth extracted. He went to a dentist who was able to remove only the upper part and left the nerve exposed. He advised the student to wait, saying that the tooth would loosen so that complete removal would be possible. He waited for six weeks, and he said that during these six weeks his character was permanently injured. He had been in excellent spirits up to this time, and his work had been quite successful. During the six weeks the constant irritation from his tooth was always in the background during every conversation, study period, recitation, or plan. Often it was also very much in the foreground. Whenever he awoke at night, he found it waiting for him. It was a miserable accompaniment to everything he attempted. He felt himself gradually "losing his grip." He made numerous mistakes that he had never made before, and found his interest in accomplishment waning. Deciding to wait no longer he went to another dentist, who, after two hours of difficult work, succeeded in removing the entire tooth. Immense relief was, of course, the result. *But the student reports that although two years have elapsed he has not been able to overcome entirely the effects of the associations during this six weeks.*[1]

Thousands of cases like the two above occur daily in schoolrooms of this country. When the children have been sitting overlong, morale is sure to be at a low ebb, and the need for discipline is likely. A textbook with print that is difficult to read has been found to be a very disturbing factor. Colds, a stuffy room, a windy

[1] This is not the report of a child. Children do not describe their pains or analyze the results so well as do adults, but the effects are just as serious.

or a hot day, and numerous apparently minor factors combine to make school work ineffective. However, when all these conditions are recognized and dealt with from the positive side, life at school is bound to be upon a higher plane than it otherwise could be.

6. Wise provision for something wholesome to do must be made at all times. When a child finishes a task, he should understand that there are many interesting occupations that await him. The entire school must be organized with a plan for wholesome play and recreation. This is of the utmost importance to morale.

7. The teacher must work upon himself so to act, speak, and appear that the children will feel in unison with him. Every detail in his dress, every small mannerism, is important, while it will surely be impossible to establish morale if, in the larger sense, in his heart and soul he is not thoroughly sympathetic with the children and interested in his work.

Morale and Discipline. — Superior teachers try to avoid any evidence of discipline. They usually report that it is an unfortunate waste of time and that they work to establish a feeling that law and order are a privilege of coöperation for the good of every one concerned, and when it is necessary to discipline any child the matter is made private and the group is not disturbed. The introductory statement in Dr. Bagley's *School Discipline* is well worth consideration here.

"It is a paradox of the well-disciplined school that 'discipline' is conspicuous by its absence. If an intelligent ob-

server, honestly reporting a visit to a school, makes no reference to its discipline, one may be fairly confident that the school is 'well-disciplined.'"

Illustrations of the attitude of an unsuccessful teacher in contrast to that of a superior teacher on this point follow:

In this investigation a man was discovered who had left teaching to go into business. He contended that teaching was the most difficult and worrying work that could be found, and he "did not wonder that good men did not stay in the profession." He had taught for twenty years and had finally become the principal of a small school of fewer than one hundred children at a salary of one thousand dollars. Upon being asked to tell of his experiences the best he was able to do was to tell story after story of how he had caught "bad boys" at their mischief. This, to him, seemed to be the important element of school work. Is it any wonder that he thought teaching to be a nerve-racking occupation or that in twenty years his salary rose only to the above mentioned figure?

In discussing educational problems for a period of six weeks with a superior teacher discipline was never mentioned. She had been teaching for ten years, had held positions all the way from grade school teacher to that of principal of a large elementary school in a progressive city; nor was she leaving the occupation for other fields. When asked about discipline, she merely smiled, and added that the great majority of children were interesting to study, and concluded that there were very few really bad children. "Bad cases" from other schools were frequently transferred to her school. Most of them improved while there and went out into the world or on to high school with a better attitude.

Everyday Mechanics and Details

Eliminating Drudgery. — An obvious difference between the successful and the unsuccessful teacher is that revealed in the attitude towards everyday work. One conspicuous difference was the pleasure of the former and the pain of the latter in daily work. The poor teacher rises each morning to face "the day's grind" as many have been heard to term their regular work. The better teacher awakes each morning to a new day of accomplishment, because the small duties of his work have been met and mastered, and he has both time and energy for larger issues.

Every teacher should try to find pleasure in commonplace daily tasks. It is obvious that work will be painful, is likely to undermine health, and is sure to be done in a slovenly manner if factors that must be met again and again each day are not mastered to the extent that performance becomes a pleasure. We have numerous experiments which show that the performance of the most mechanical task is keenly enjoyed by those who thoroughly master it. There is nothing so unpleasant as work in which some small detail continually interferes with performance.

School Marks.[1] — The necessity for giving marks cannot be avoided. All the best teachers in our group

[1] These words are used to indicate that part of the teacher's duties that is devoted to studying the work of the children, fixing rank in class, assigning marks, and so on.

were conscientious in this matter. There is a great difference, however, between what may be termed a conscientious, intelligent attitude and the narrow view that magnifies a grade or mark out of all proportion to its value. The superior teacher realizes that a grade is given to a child in order to help him. He also plans ways of obtaining accurate estimates without making the process too prominent. *The grade book should never be flourished in front of the children and used as a goad.* This practice is common in poor teaching. The mediocre teacher is very likely to begin discussing grades at the beginning of the term and to wax warmer upon this chosen theme each week until the term is over. His superior neighbor *gets better results, marks more accurately, and spends far less time doing it.*

Illustration of Successful Methods of Rating and Marking. — In the chapter devoted to methods of testing numerous illustrations of tests and examinations are furnished. In this place the mechanical aspects of grading will be illustrated.

Eighth-grade class of thirty-seven children. The method used in arithmetic will be considered here. For the first week the teacher did little more than test. Every child was sounded in *everything of value* that had been covered up to this grade. Tests were so constructed that the *children could change papers and mark them* in accordance with the directions of the teacher. Each child kept a notebook in which he recorded the mistakes that were *likely to hinder him in the work of the eighth grade.* In each test the teacher explained just what was important. A test covered one side of one

sheet of paper. Each problem was marked right or wrong and the per cent correct recorded by the children. The papers, not folded, were passed in such a manner that the teacher found them arranged alphabetically. They were recorded after school.

It took the teacher only a few minutes each evening to record the grades. She had each test named, as "multiplication of decimals," "division of decimals," "assembly and addition of decimals," "the multiplication of fractions," "the multiplication of a fraction by a compound number," "the reduction of fractions," etc. At the end of this week each child had been sounded so completely that the teacher had an estimate of his ability in every detail of the subject.

Following this, during study periods, a series of conferences took place. The teacher called a child to her desk, asked him to bring his arithmetic notebook with him, and together they went over his case. There was no scolding. At this juncture a weakness was looked upon merely as a fact. His class standings in the combined tests with important points in each one were given to the child. He was advised to work upon his weaknesses.

Having thus thoroughly informed herself as to the capacity of each student this teacher reported that her work for the rest of the term was very much simplified. Also the possession of a careful analysis, recorded in detail at the beginning of the term, furnished her with a basis for further estimates.

She was now ready for the *second stage* in the work of grading. A week was spent in studying the attitudes of the different children. Which ones did the reciting? What sort of recitation did each make? Recitations were classified as voluntary, called out by the teacher, and voluntary but not well considered (the child who is always willing to talk but never organizes his thoughts or never goes to the bottom of his subject). Where lack of preparation, inability to pre-

pare properly, or lack of coöperation and interest were shown, the situation was recorded. The recording was done at the end of the recitation in a notebook made out with different headings. A definite plan of working through the class in a certain way each day helped in this. At the end of this week a large number of records of each child made it possible to have conferences with special individuals upon their daily attitudes and methods of work. In these conferences the records were used as a basis.

The *third stage* in the work of grading was now possible. The teacher familiarized herself with the work of each child. This took some time, but it proved worth while, for during the rest of the term it made all the work much easier. Each day the class was divided into three groups (in the mind of the teacher, not in separate groups as to seating, etc.), those who did exceptionally well, those who failed, and those who went along as usual. *Usual, however, now had a special significance.* It meant in accordance with the carefully worked out estimate which had been mastered by the teacher. In the evening or at the end of the class period, a few records were made. It was possible to keep track of the work of the children without using the grade book in front of them because each new estimate was based upon full knowledge of past performance, and only changes for better or for worse were recorded. Changes occur in only a small per cent of the children of a class. When they do occur, they are not hard to keep in mind by one who is interested. No record meant no change. Thus a grade for each day was possible with very little effort, and grades never became the center of interest.

The work of this teacher was known to be thorough. No one doubted that her estimates of the work of the children were accurate. She was very successful in getting results, and no child felt that he was working merely for a grade.

The record of the teacher was used as a basis in fact for diagnosis and prescription. The report card furnished a periodic account or summary, but no child was surprised at his grades.

If teachers realized how much easier it would make their work if they would attack it in so businesslike a manner, they would appreciate the fact that teaching, down to its most minute details, should be an art. Let us note some of the factors in this illustration. They are summarized as follows:

1. Every detail was organized, even the method of handling the papers. They were not folded; only one side of one sheet was used for a test, and the method of passing[1] them was planned so as to save time. The purely academic teacher ignores such details and, therefore, finds them waiting for him at every corner. Even when he boasts that he is above such things, he reveals an unconscious worry, for he realizes to himself that he is not efficient.

2. A careful study was made at the beginning of the term. The teacher took the time at the initial stage to master the details in the work of each child. She found herself relieved of a great load by doing this. There is nothing more disheartening to a conscientious teacher than to find himself constantly in doubt concerning the work of his classes. When a careful study has once been made, the ease with which future es-

[1] These are not absolute. Other well-organized ways may be just as good.

timates and suggestions may be made adds much to the pleasure of the work of teaching.

3. Estimates were formed almost automatically after the basis had been established. This was due to the fact that a careful plan had been made. Time was saved and records were much more accurate and complete than those of many teachers who spend a great deal more time.

4. The marks were used to detect weaknesses and as stimulation for better work. The private conference in such matters is a powerful factor. When based upon accurate knowledge, it is bound to make for better work as well as more wholesome relations between the teacher and the child. Like conferences with parents are also helpful.

Going In and Going Out of the Classroom. — Even such a mechanical detail of school work as the passing in and going out of the classes is intelligently planned by superior teachers. They plan that it shall be done efficiently and teach the children to take full charge of themselves. An illustration in the words of a teacher will indicate how this has been done :

"For years it has been a part of my plan to make the children responsible for an efficient method of passing in and out of the room and the school. I begin by discussing the matter with them. When they are asked to think it over and to suggest ways that might be feasible, the average class responds very readily. Before our discussion is over I always ask them whether or not they would like to take full

charge of this matter and save themselves from being watched. I explain that they are big enough and intelligent enough to go and come without my seeing that they do not disturb any one.

"We have worked out several schemes, and since I always allow considerable initiative, I never force my method upon them. Usually, however, if the plan the class has in mind is not desirable, I ask a few questions. This has always been sufficient to remodel the scheme satisfactorily. Two plans that were especially effective are:

"1. Each child takes responsibility for himself. He may come into the room or go out in the way that seems best to him. Before this plan is begun, we always have a discussion of it, and the class takes the responsibility for suggesting better methods to children who cause disturbance. *They are always made to understand that this responsibility may be assumed and kept only if they show that they are intelligent enough to merit it.* Discussions of this and various like matters occur at intervals through the term. The class should lead at these times, as the feeling of responsibility is a factor in good morale.

"2. Another scheme that is quite popular with the classes is to work out a method that will show good breeding. In one such plan at the ringing of the bell each child put his work in order and stood beside his desk. When all were standing, proper spacing followed. Then the last row marched out first, followed in turn by those next, and those nearest the door were last."

One of the most delightful solutions of this problem was seen in a primary room. In fact, many primary teachers have adopted similar plans. The teacher had trained the children to respond to chords on the piano. In the midst of their work she would strike a chord. Immediately every child put away his work and listened for the next signal. In

accordance with its meaning they either marched out of the room in good order, marched around the room, danced, hopped, or jumped. They took great delight in being able to interpret the signals correctly. No doubt the music was a refreshing influence.

In contrast to this wholesome and efficient scheme many primary teachers spend too much of their time lining up the children for different kinds of exercises.

There are numerous other mechanics of daily routine. The way they are handled by successful teachers has been illustrated by those discussed. From the kindergarten through the university they are important. Often in institutions of higher learning such factors are so poorly handled as to be almost ruinous to good work. Here the academic mind pretends to be above details. *There is only one way to rise above details, and that is to meet and master them.*

It seemed fitting and necessary to emphasize the foregoing factors of good teaching in this book. We have, to use our own expression, met them and at least have attempted to master them. Let us keep in mind the idea that we deal with them first of all in order to prevent them from interfering with the rest of our work. Good teachers utilize mechanical details as important tools in the larger scheme of developing children.

Summary in Suggestions for Practice

1. *Teach to develop a constructive spirit.* Keep in mind that this is essential for success in teaching and

at the same time is of world importance. When you develop a child's morale you are doing service in the cause of modern civilization.

2. *Meet problems of discipline before they occur.* Remember that morale is made up of hundreds of apparently insignificant influences. Work for morale and it will not be necessary to spend much time trying to catch " bad " boys at their mischief.

3. Make up your mind to *excel in your everyday tasks.* Do them so well that they will become a pleasure; eliminate drudgery.

4. Make assets rather than liabilities of details. Seating, passing papers, grading, and marching in and out of the room, all furnish problems that must be met efficiently. Meet these issues before you try to apply more complex principles.

Questions to Emphasize Chief Points in Chapter X

1. Why were morale and the mechanics of school work associated in the same chapter?
2. What is the value of morale as a world force?
3. What part is given to the "attitude" or "set of consciousness" in psychology?
4. What is the influence of "feeling tone"?
5. How does the development of morale increase the importance of education?
6. Give illustrations of the importance of morale in military science.
7. State seven important issues in the development of morale in the American school.
8. How is it possible to "eliminate drudgery" in the school?

9. Discuss the methods of passing in and out of school described in this chapter.

Problems Suggested by Chapter X

1. Why is the spirit of the worker so important to the accomplishment of a difficult task?
2. Give instances of your own which illustrate the extra "drive" that comes from establishing morale.
3. Do you think the work of education can accomplish much through the establishment of a world morale?
4. Why is it so necessary that the individual know the value of the work he is doing?
5. Rudyard Kipling remarked that the American soldier would be a good fighter in any cause he espoused because he had been trained by women. What did he mean by this statement?
6. Did you ever have some small detail in an important task worry you even more than larger issues because you had failed to overcome it at the proper time? Illustrate. Roosevelt tells of a hunt on which he was able to outwalk a man famous for his endurance because he (Roosevelt) had been careful to select proper shoes while the other man had not.

Volley ball is now recognized to be the ideal school game. The movements required are especially effective in correcting unhealthful postures. Every elementary school teacher should learn how to play volley ball as well as acquire an understanding of the values of the game.

CHAPTER XI

IMPROVEMENT PROGRAMS

The Necessity for Programs. — It is essential for the teacher who desires to improve to analyze every teaching problem with the plan of discovering a body of data upon which to base programs for improvement. If, for example, he wishes to improve the correctness of his everyday English, he must first of all make a study of his habitual errors, select about ten that are most prominent, and substitute a proper expression for each. His efforts for a period of time should be directed towards establishing the habit of employing proper phrases or expressions in the place of the ten habitual errors. Such a scheme is essential in the improvement of every phase of teaching. It may be possible to carry on a number of improvement programs at once.

Programs for the improvement of the teacher's personal appearance, disposition, and health; programs for improving school management, methods of teaching, and the selection and emphasis of subject matter; programs for the improvement of the home life of the children, the relationship between the school and the home, and the play of the children; and programs for the improvement of every phase of teaching: all com-

bine to improve the process as a whole. Incidental or casual attempts bring little or no advancement. A gain in one place may be offset by a loss in another unless the teacher keeps in the background of his efforts a fairly complete plan which will insure progress.

In this chapter illustrative programs are described. They are merely suggestive of numerous ways in which teachers may plan to grow. Teachers and prospective teachers are advised to make use of the ideas in these illustrations. The basic principles should first be assimilated. The plan should then be modified to fit local needs and conditions.

Illustrative Improvement Programs

A Background for Developing Class Morale. — A beginning teacher who showed interest in the subject of "morale" as discussed in Chapter X was directed to observe the morale of the class of a superior sixth-grade teacher with the idea of making a program of the results observed toward which she could work in her own teaching. After a few weeks' observation she reported the following "impressions." They are worth considering by any teacher who desires a background for improvement in work of this type.

1. There has been a procedure general enough to meet the arising needs and emergencies. Yet a definite lesson has always been planned.

2. Moral standards are kept before the pupils to which they respond exceptionally well. They have a coöperative pride as well as individual interest.

3. They are feeling the value of honesty.

4. All have poise, — true, some more than others, — but no one loses his head.

5. The sixth grade is learning how to study as well as how to learn.

6. They (the children) behave wonderfully well without having it "drilled into them."

7. They are very attentive. They are interested in their work.

8. Their vocabulary is quite astonishing in many cases, and their good English is particularly noticeable.

9. The attitude of the children toward the teacher stands out also.

10. Children in the sixth grade seem to have been made exceptionally friendly and inclined to talk a great deal, which can be utilized in their school work.

11. Children have developed knowledge of current events and a general interest in life.

12. They have discovered the secret of all progress in school work — the need for knowledge.

13. The pupils have learned to take responsibility for the group and their school.

14. They are at almost all times courteous, cheerful, confiding, and enthusiastic.

15. They are willing to listen to suggestions made by other children or by the teacher.

A Program for Teaching Spelling. — The following program for the improvement of teaching spelling was made and successfully tried by a group of teachers.

General: 1. The primary aim in spelling in the upper grades is to develop in the children a *spelling consciousness*. With children in these grades, this objective is best reached

through the visual sense, but an approach is also made through auditory and motor activity, for the children hear, see, pronounce, and write each word studied.

2. Another important aim is *economy of time.* Why waste time on words the children already know? To effect this aim a preliminary test is given on the new words each day, and only those words with which the children have difficulty are taught. Weekly preliminary tests may be given.

3. An effort is made to teach only those words which occur naturally in the mastery of the school arts, and are needed in written work. The true test of good spelling is its use in manuscript; obviously children need to spell only those words which occur in their writing vocabulary, compositions, and letters.

4. Dictionary definitions are not required for words already familiar, but pupils are encouraged to use this source for spellings and meanings. The latter are developed chiefly through context or in sentences about correlated subject matter.

5. Only five new words are taught each day. Wilson says, "In spelling we have been hopelessly burdening the child in our attempts to teach 10,000 to 15,000 words, while the outside limit of an eighth-grade vocabulary is less than 5000 words."

Specific: 1. The teacher has previously written on the board five sentences using new words. These sentences deal with subject matter used in other classes, and whenever possible meanings have been developed during some other recitation.

2. James stands and reads sentence. He quickly calls on Mary for an original sentence. Mary: "Agriculture cannot be easily carried on in *mountainous* regions." Mary calls on Katie for another sentence.

3. All five new words are developed in a similar way.

4. A preliminary test is given on the five new words, the meanings of which were developed the preceding day. Children correct their own papers.

5. Those who miss no words in test study something else or read at seats.

6. Only those who miss words study spelling, and each studies only the words he misses. This effects economy of time.

7. Teacher writes first word on board, not in syllables. Those who miss the word come to the board.

8. Teacher pronounces and spells the word, stressing syllables.

9. Children pronounce and spell word, stressing syllables.

10. Children pronounce and spell the complete word.

11. Pupils close eyes and visualize word.

12. They look at it again.

13. Word is erased and pupils spell again.

14. Pupils write the word. Thus each pupil has seen, heard, pronounced, and written the word.

15. The same method is used for each word.

16. After lesson has been taught, all concentrate for few minutes on all words.

17. They then write eight or ten words, five old and five new.

18. They correct their own papers.

19. Each child keeps a list of words he misses for his own benefit and review. A twenty-word test is given each week, a fifty-word test each five weeks. Matches and review stimulate interest. Time given to spelling each day, fifteen minutes.

A Program for the Improvement of Teaching Beginning Reading. — An experienced teacher interested in the improvement of the teaching of beginning read-

ing after a series of conferences with persons who had received special training in this field read the following books:

1. F. W. Dunn — *Interest Factors in Primary Reading Material.* Bureau of Publications, Teachers College, Columbia University.
2. Nellie Cooper — *How to Teach the Primary Grades.* Flanagan, Chicago.
3. Frances Jenkins — *Reading in the Primary Grades.* Houghton Mifflin.
4. C. R. Stone — *Silent and Oral Reading.* Houghton Mifflin.
5. F. T. Baker and A. H. Thorndike — *Everyday Classics, Teachers' Manual.* Macmillan.
6. W. T. Field — *Teachers Manual for the Field Primer and First Reader.* Ginn and Co.

She then modified an outline of a superior teacher and made for herself the following program:

1. The children should be divided into three groups. Group I comprises the brighter children who learn to read almost without instruction and who should not be required to take any drills in phonics but should be allowed to read ahead as fast as they desire to go. In Group II, made up of average children, there will be need for regular drills in phonics and the reading must be checked regularly by a plan to see that the child *gets the thought* from the printed page. Children of this type will make up the largest group. Group III will be made up of slow readers, mostly backward children; a great deal of drill and attention to different types of weakness will be essential in this group.

The first step in this program is the diagnosis of the class in order to determine the members of these groups.

2. Emphasis with all three groups should at first be put upon the thought-getting process. Until this habit is firmly established there should be no conscious effort on the part of the teacher to help the children with the phonic elements.

3. If a child does not know a word, it should be told to him, or better, suggested to him through its connection with the content.

4. If the child, however, during this early stage notices similarities between words, the work is halted for an instant and the attention of the class is focused upon the similarities. For example, on a certain pre-primer chart the word "made" came directly under the word "man." A child noticed and spoke of the fact that the two words looked alike. He was asked what part of the words looked alike. In the rhymes and jingles used as pre-primer material, some child will frequently mention that certain words sound alike or rhyme.

5. In accordance with an organized plan the children should be "allowed to discover" in their reading all the basic phonetic principles. After the habit of reading for thought is firmly established, when a child notices that the initial letters of certain words are the same, the work should be halted for a short time, and the words put upon the board. The child may pronounce them slowly, and find out what part of the words sound alike; then the children think of other words that begin with the same sound. These are added to the list on the board. Frequently they will find the sound in their own names, as *man, met, Margaret McMillan.* Only a short time is necessary for this, but every occasion is used in the everyday work to note words which begin with such initial sounds, particularly unfamiliar words. It is in this way that the consonant sounds are developed, the easy ones first, as *c, m, s,* etc. The slow children who are not quick in noticing in their everyday work these similarities are given special training.

6. Combinations of vowel and consonant sounds known in phonic systems as "families" are developed in much the same way as the consonant sounds. A child in reading a certain story came to the word "bake," which he did not know. He did, however, know the word "make." The words were placed upon the board, their similarity noted, and the unknown word was easily pronounced. The children were then asked if they could think of any other words that sounded like "make" and "bake." "Cake," "rake," "flake" were added. The teacher said, "I can think of something on which you might sail a boat, or in which you might fish or swim." One child immediately gave "lake." Again the attention of the children was drawn to the similarity of all the words, and the suggestion given that whenever they saw "ake" in a word they would know how it sounded.

7. No work should be done in the first grade to throw emphasis on difficult phonograms. Only the simple ones are taught, as *at*, *in*, *en*, *ing*. The teacher should be on the alert to have these phonograms appear, whenever possible, in new words.

8. The children should be watched carefully, and if there is the slightest tendency to too much analysis, tending to slow down speed or hinder the getting of the thought, special emphasis should be put upon phrasing or word grouping.

9. Most of Group I do not need phonic help, and their time should not be taken for it, but rather that time should be put upon fixing habits of thoughtful, intelligent reading.

10. A child should, by the end of the first year, be familiar with the initial consonants and the easy combinations of vowels and consonants.

11. A great deal of supplementary material should be provided so that there will be ample opportunity for rapid silent reading.

A Program for Improving the Mechanics of Class Management. — In Chapter III the necessity for the mastery of details was emphasized. Below is the report of a beginning teacher on the observation of the elements of class management in the work of a superior teacher. By making a background of these ten points improvement in class management may be brought about by many teachers who have difficulty in this phase of teaching.

1. The children should take their places in a quiet, orderly manner, as quickly as possible, but of their own initiative.

2. A short recess is given after every hour class, so that the children will not become so tired, as fresh air and play are as essential and fundamental to the child as schoolroom work.

3. Courtesy should be insisted upon to both teachers and fellow pupils.

4. Every one's attention must be secured before proceeding with the lesson, as the child is likely to lose instructions, the repeating of which is a waste of time to the other children, causing inattention and loss of interest on their part.

5. The personality of the teacher, her dress, and children's friendliness with her, are important in securing the liking of and interest in school work.

6. Without a good beginning, it is difficult to proceed well. The teacher must start her work with confidence, and show from the very first that she is capable of controlling the situation.

7. Children should be allowed to ask as many intelligent questions as possible, encouraged to do so, and allowed to take charge of their work as much as they are capable of

doing, as it develops the child much more than if the teacher is continually the dominating figure.

8. The desks should be cleared, and pencils put away so the children will not have these to play with and become a source of inattention.

9. The children who do not respond should be called upon often and encouraged to talk.

10. Children are likely to become restless if the subject matter does not control their interest.

Individual Analysis in a Test. — After giving a test the teacher should see that each individual is helped by an analysis of his answers to the questions of the teacher. Wherever possible some specific truth about the character of the child's work should be conveyed to him. From time to time after the return of the papers the teacher may inquire of the child about how he is progressing in overcoming the weakness revealed in his latest test. The following is an illustration of work of this type:

IRENE: You failed on questions that related to class discussion. Advise you to be careful and note what goes on in class.

GEORGE: Be sure to study questions asked of you so that you will not misinterpret. Also be supplied with more concrete illustrations in your observation study.

BEATRICE: A good paper. You would probably better study your text so as to have more points that you believe are worth keeping.

FRED: Advise you to note what is going on in class as well as to be careful to answer questions as

asked. Your score here is probably accidental since your class recitations are very good.

MARY: No directions necessary — your paper is best in class.

LESLIE: Study your text more. Be careful to answer questions just as asked. Note more of class discussion.

BLANCHE: A very good paper. Your only weakness in this paper appears in partial failure on those questions answered in class discussions. Be careful to listen in class.

DOROTHY: Suggest that you try a little harder. You lost at least ten points in this test by lack of effort. You show weakness on textbook as well as on material contributed in class discussion.

A Program of Principles for Making or Interpreting a Course of Study. — The following principles should be made the *heart* of a course of study. They should be used in the selection of all the subject matter in all the subjects. A course of study must be more than an outline. A central feature should be ways and means of dealing with the subject matter that is to be taught. Therefore, at every step the teacher should feel that he is realizing some of the bigger principles, and every detail should be a definite part of the larger scheme. These must be used and illustrated with classroom procedure in all the different subjects. The following principles have been employed in making courses of study in several cities and in at least one state:

I. The teacher should always keep in mind four important aims of education:

(1) Health
(2) Social-Civic
(3) Vocational-Economic
(4) Culture-Recreational

If these are understood in a practical way the teacher will be working constantly to realize them. For illustration, she is likely to have hygienic rules about allowing children to be excused from classes — she is unlikely to keep children inside at recess — she will avoid worry and will give children sound advice about health matters at any time if she is working at all times for the health value. It will be the same with the other three values. A teacher who feels that these are a part of the course of study is sure to be a better teacher, and if these can be put over with a number of practical illustrations at the beginning of the general course so that every teacher will feel that he is bound by them even more than he is bound to teach fractions and decimals, such course of study should be very helpful.

II. The next fundamental principle that should be understood is that of proper classifications of the different subjects:

(1) We have the "*key*" subjects (the three R's and spelling)
(2) The *content* subjects (geography, history, and so on)
(3) The *expression* subjects (music, physical training, English composition, and the general civic social principles of the entire school).

Of these the key subjects are basic and very important, but reading is by far the most important of all of these and silent reading much more important than oral reading. Penmanship, spelling, and a reasonable mastery of the fundamentals of arithmetic should be completed by the end of the sixth or seventh grade. The teacher should understand that the

key subjects are not ends in themselves, that they should usually be taught by lively and effective drill, not made burdensome, and, to go back to the first point, that reading (silent reading) is by far the most important of them all.

The content subjects begin to be important in the fourth grade although they may form a general nucleus for interest before that time; but from the fourth grade on there may be increases so that in the seventh and eighth grades content is a very important issue.

Modern education looks upon the expression subjects and upon methods which employ expression on the part of the learners as the chief contribution of the twentieth century to the curriculum. Such phrases as a "thought without expression is a thought without impression," and the other, that we do not "learn" children or even teach them, but we teach children to learn, should be made basic in emphasizing the value of expression subjects. One may know how to write or spell very well and he may know thousands of facts from the content subjects, but if he is not able to use both of these abilities in the actual processes of living, that is in expression, they are of little value to him or to the world in general.

III. The last general principle is that of the selection of subject matter. The teacher should understand that there are three types of subject matter on every topic that may be presented:

(1) There is the cardinal-factor element of the subject, and this should be mastered absolutely.

(2) There is the illustrative and transitory fact or element, which should be learned for the occasion or for the time being.

(3) There is the useless subject matter.

Frequently teachers emphasize useless subject matter more than the other two types. This is probably on account of the fact that there is more subject matter that is useless

than there is of the cardinal or transitory type. If one will observe the ordinary class and the subject matter as classified in these three ways, one will readily see that much of the subject matter emphasized in the classroom could give way to material that is more useful. A course of study should emphasize and reëmphasize these points. It should "pound, pound, pound" upon cardinal issues, and if these principles can teach teachers to discriminate, they will be doing a wonderful service.

A Program for Introducing the Project Method. — This program was made by a young teacher who had taken her practice teaching under a supervisor who was especially successful with projects. She secured a position under a progressive superintendent who advised her that he would appreciate some good project work providing it were not " one-sided " or too " spectacular." At the advice of the writer she read the following books and magazine articles as a background for her plan: *The Project Method* by J. A. Stevenson; *The Elementary School Curriculum* by F. G. Bonser; *Methods of Teaching in Elementary Schools* by S. C. Parker; *The Project Method* by J. L. Stockton; and articles on the project for two years back in *The Teachers College Record* and *The Elementary School Journal.*

After thus reading she made the following program:

1. Keep in mind at all times the different big principles expressed in the definitions found in the writings of Kilpatrick, Charters, and Stevenson, *complete educative experience*, *natural setting*, *organized activities with a purpose*, and *pupil-initiative.*

2. Make this work establish habits of independence. All projects must represent the work of the children.

3. Projects should establish the habit of asking intelligent questions. It is hoped that one result will be a desire on the part of the children for knowledge that will help them carry on their projects.

4. Longer and better organized individual recitations should be another result.

5. The children should learn how to use books in finding information, the textbook as well as reference books. Wide reading is expected.

6. Individual differences are to be taken advantage of and children with special talents will be allowed to bring them to bear in making a success of the projects.

7. Better work in the school subjects should result. Presumably the children will work more diligently in the mechanics of arithmetic, writing, spelling, in order to be able to do the "technical work" necessary to success in projects.

8. Effective English expression, courtesy, coöperation, accurate arithmetical calculations, perfect spelling in all signs or directions on projects, accurate geographical and historical knowledge, all these will play a part.

9. First project, "Columbus the Central Figure of a Great Age." Plan to spend six weeks on Columbus, using the ideas enumerated above.[1]

Summary in Suggestions for Practice

1. Upon deciding to improve some phase of teaching, be sure to make a *thorough study* of the issues involved, also read widely in the literature of the subject

[1] See Unit Plan in Chapter IX, also seventh-grade plan in English, p. 207.

and make a *complete program* to guide you and to remind you of the many sides of your problem.

2. Make sure that you have the right principles to go by, then continue in your determination to improve. Change devices and details but keep to the basic principles.

3. The teacher who would improve should have a number of such programs and refer to them frequently.

4. Do not forget that one-sided enthusiasm without careful study and planning as a preliminary is not likely to result in the improvement of any phase of teaching.

5. Note especially that most of the programs suggested in this chapter contain general principles as well as plans for their execution.

Questions to Emphasize Chief Points in Chapter XI

1. Why is it essential that the teacher construct improvement programs?

2. Describe the program suggested for a background in developing class morale.

3. State the five general statements in the program for improving spelling.

4. What three types of children are anticipated in the program for teaching beginning reading?

5. What is the attitude taken towards phonics in the program for teaching beginning reading?

6. State five of the points in the program for improving the mechanics of class management.

7. What three large principles are employed in the program of principles for making and interpreting a course of study?

8. State five of the nine points in the program for introducing the project method.

Problems for Discussion Suggested by Chapter XI

1. Have you ever tried to improve any of your abilities? Describe the result.
2. Why is a New Year's resolution likely to be forgotten soon after it is made?
3. What type of results in the three R's do you think were in evidence in the room observed by the young teacher who made the program for a background for class morale? Why?
4. Do you think the procedure suggested for teaching spelling a good one? Why?
5. Have you read the books suggested in the program for teaching beginning reading or those suggested in the program for introducing the project method? What books on these subjects have you read?

CHAPTER XII

A CROSS SECTION OF A GROWING SCHOOL

A Description of the School

The school taken for illustration here is located in a city of about 60,000 population. In general the spirit of the entire school system is excellent. The work of this school is taken because it is typical of the best. Any one of a hundred growing schools could have been described here and the principles illustrated would have been the same.

Some points worth mentioning about the school are:

1. An atmosphere of achievement was noticeable throughout.

2. There was a quiet restfulness about the work. There was no unnecessary flurry or worry.

3. Coöperation between teachers and principal and between these two and the children was evident.

4. Teachers and principals recognized deficiencies with a determination to eliminate them as far as possible. This created a spirit of progress.

5. Criticism was invited, but the teachers and the principal knew enough to disregard purely destructive criticism.

This boy probably *feels* some of the
ngs Uncle Sam is saying.

A gilded coronet and a scepter help to bring "reality" here.

Announcer at the Olympic games.
o yards of muslin took this child
k two thousand years.

A gold miner in the days of '49.

Simple costuming has a powerful effect in creating the "natural setting" em-
asized by Charters in his definition of the project. It also allows opportunity
child initiative.

An important advantage from the standpoint of illustration is that this is not a private school. It is one of the great American public schools, not ideal but ideally practical; a place where boys and girls receive training and undergo experiences that will make good citizens of them; not a perfect school, but one like most other schools in the problems it must meet and solve, yet learning to solve them better as it grows.

What the Recitations Indicate

Modern Methods More Fully Explained. — The recitations described in this chapter will serve to explain modern methods in a better way than any amount of descriptive language can do. Ordinary public school teachers in a public school system conducted every one of them. They had to undergo all the difficulties ordinarily met by the average teacher; *i.e.*, large classes, an ordinary course of study, peculiar and backward pupils, parents who sometimes failed to comprehend the value of what was being done, and other drawbacks as numerous as are found in an average school.

In considering such elements as scientific drill, motivation, appreciation of relative values, initiative by pupils, teacher in the background, the selection of valuable subject matter for emphasis, coöperation, organization, exercise in thinking, intelligent questions asked by children and teacher, and a number of other important factors of modern teaching, it is hoped that

these illustrations with the comments will serve as a background for the practice of the reader. We have a cross-section of a modern school in action together with comments by the principal of the school and by the author.

The Growth of the School. — The work of the school used for illustration was not always so much in accord with modern methods and ideals as it is now. It developed through years of effort on the part of the principal and the teachers. When they began, it was impossible to carry on work of the type described here. At first the children did not know what to do when left to themselves, as in some of the recitations taken for illustration. From the comments of the principal it is obvious that they are still working upon the problem of improvement. This should encourage anyone who wishes to improve. In fact, the reason the principal and the teachers have been able to improve so much is that they have worked with the intention of making progress even when they knew that many difficulties stood in the way of ever attaining perfection.

Comments of the Principal. — After the description of each recitation will be found the comments of the principal. The principal is a woman who has taken the pains to keep in contact with educational literature, has taken summer courses in education, and has tried conscientiously to realize in her school the best ideals she could get.

Her comments should be read carefully. They can

be approved in every way by one who knows modern educational ideals and is interested in seeing them made use of in teaching. It will be noted that she does not approve of everything that is done. Deficiencies, however, are not always laid at the door of the teacher. We find in these comments an intelligent, practical, and useful discussion that should help every teacher who is in earnest about the improvement of his work.

How to Make Use of the Illustrations in Improving Teaching. — After reading the descriptions of these recitations, the comments of the principal of the school, and those of the author, the teacher who wishes to make use of the ideas should carefully consider them in relation to his own school. He may find that a recitation which worked splendidly in the school taken for illustration turns out to be a failure when tried by himself. In such a case some existing condition has not been dealt with properly.

It is also well to keep in mind that it is not wise to try to do exactly the same thing in the same way throughout as it was done in one of the illustrations. First of all the central ideas must be assimilated. Then application will result in a number of different ways all of which approach the model and many of which may be superior to it.

It is very important that the reader fully comprehend the terms used by the principal in criticizing. When it was mentioned that a teacher was *properly in the background,* a situation that is very hard to achieve had

been attained. In another place mention is made of the fact that " teachers who have taught for some time find it most difficult to put themselves in the background." Child initiative, coöperation, and motivation are other terms used frequently in the evaluation of recitations. The teachers evidently understood the practical significance of such terms.

3 B Reading Dramatization

Assignment: Story of "Wolf, Wolf!" Text: *Dramatic Reader.* This lesson was given for the purpose of testing the value of group work.

Teacher assigned lesson with only a few words of explanation and sent six pupils — number required to dramatize story — into hall to study, where they "acted out" the parts. No supervision was provided other than that given by a "leader" appointed by the teacher.

The following day the principal was invited in to see the result. Pupils took their places in front of room, without any suggestion whatever from the teacher, and with remarkable ease and freedom dramatized this story of over two pages in length, giving the thought in their own words, although in some cases exact words of book were used.

The "audience," which in this case happened to be the entire room, although the "other class" was supposed to be studying, was intensely interested. In order to improve certain "rough spots" the teacher and principal asked pupils to repeat the reading. Perhaps there was not a great deal of value in repeating, but they felt that it might help to improve the dramatization in the next lesson which another group of pupils were expected to give in the course of the next day or two.

Comments of Principal. — The results in this lesson seemed to prove to both teacher and principal the great value of group work, especially when the group had greater freedom for studying than could be given in a room where another class was reciting.[1]

Splendid opportunity for development of *initiative* was provided in this recitation. Each pupil was allowed to play his own part with but few suggestions from the teacher. *Organization,* also, had been taken care of — each pupil had to know when his " turn " came, place where he should stand in relation to other pupils in order to make play most effective, etc. *Selection of subject matter was good,* although there might be some question in regard to that point. The motive on the part of pupils probably came from the love which all children have for " acting."

The *teacher was scarcely in evidence* during the recitation, although she was " on the job " every moment of the time. The fact that only six pupils participated in this recitation might be criticized, but that could very easily be overcome by sending more groups to the hall to study the same selection, and having each group recite — if time would permit.

Further Comments. — Here we have an illustration of a type of work that approaches the ideal. The fact that the children could go out of the room and be trusted to do a good piece of work without any surveillance by the teacher was an indication that she was,

[1] See chapter on "Teacher in the Background."

indeed, " on the job " as the principal expressed it. A teacher who can send children outside and be confident that they will do good work has attained something very worth while. Some teachers fail here and report that it is entirely a matter of the type of children that happen to make up the class. Both the teacher and the principal in the above case maintain that such work is possible with the majority of children after they have been trained for a short time.

Socialized Recitation in Geography

REVIEW LESSON ON SOUTHERN AFRICA

Topics:

1. Settlement
2. Farming
3. Ostriches
4. Diamond mines
5. Gold mines
6. Natal — the garden of Africa — tea

First pupil was called upon by teacher to recite upon first topic. He passed to map at front of room and gave a brief talk on the history of the settlement of South Africa at same time locating places on map as he talked. At close of his recitation he called for "Remarks." Instantly half of the number of pupils in the class were on their feet ready with questions and suggestions. Some of the questions he was unable to answer — these were answered by pupils who asked them. If he was not able to answer the question to the satisfaction of the pupil who had just recited on the topic, the matter was referred to another pupil or to the teacher; she, however, in almost every case, assigned the topic to some one to "look up" the next day.

After the first topic was disposed of to the satisfaction of the class the second one on "Farming" was taken up. This led to a discussion on the different kinds of farms — cattle, sheep, goat, and ostrich — which showed that pupils had gathered a great deal of information from outside sources. (Carpenter's *Africa* had been used, *The Book of Knowledge*, an encyclopedia, and about ten books which the teacher had brought from her own library.)

The third topic on "Ostriches" led to a lively discussion on size and strength of bird, size of eggs, value of feathers, etc. One pupil in his remarks became somewhat aggressive — almost impolite — in asking and answering questions. Teacher had to stop recitation for a moment to remind pupils that they must remember *always* to observe politeness. A few other timely remarks were thrown in, such as keeping to the point, speaking loud enough to be heard by entire class, using good judgment in regard to kinds of questions asked, etc.

The three remaining topics were disposed of in much the same manner, each one bringing forth splendid discussion, showing that pupils had spent much time and thought on the subject. Each one seemed eager and anxious to recite, and the entire class was *alive* and *alert*. It was noted, however, that boys' questions and answers were much more definite and to the point than the girls'.[1]

Principal's Evaluation. — We are doing a great deal of work of this type in our building and are finding it very profitable and interesting. It seems to stimulate individual effort to an unusual degree, and brings forth an initiative and interest that is never seen in the old formally conducted recitation. Pupils are taught *thoughtfulness and consideration for each other's rights* —

[1] See chapter on "Improvement through Socialization."

are taught to *organize their thoughts definitely* — to *ask intelligent questions* — to choose only *good* material — *ability to express themselves before an audience* — and many other things that are of vital concern in their lives outside of the school. We believe this training will "carry over." A lesson like this should be seen to be appreciated — it is impossible to make a reader feel the *spirit* of it, the most important thing, after all, in the lesson.

Further Remarks. — Every teacher who reads this will do well to note carefully the principal's evaluation. It is to meet such needs that the socialized recitation was designed. Many teachers will find that time may be profitably spent in this way if they focus upon the six or seven definite purposes italicized above.

The part played by the teacher in this recitation is worth special consideration. She was in the background most of the time, but on one occasion she took charge long enough to impress upon the class the special points for which they were working. When one of the boys became too aggressive, the teacher showed what her part in a socialized recitation might be.

It should also be noted that this was a review lesson. Such work is usually more profitable in review work. It is possible for ordinary classes to come nearer to the realization of the fundamental aims of this type of socialization when they work with materials that are more or less familiar. The teacher who is beginning socialized recitations will do well to keep this idea in

mind. After the class has been trained in "*thoughtfulness for each other, organization, intelligent questioning, the choice of only good material, and the ability to express themselves before an audience*" they may do very well with advanced materials.

6 B Geography

Assignment: National Parks. Class had been divided into groups of three or four pupils each, each group studying one park. This was the fifth day they had been studying projects.

Pupil was called upon by teacher to recite upon her topic "Glacier Park." She stepped to front of the room with a handful of illustrated literature, and a few notes written upon a bit of paper. She commenced reciting by passing to a large railroad map and showing location of park. This was followed by a brief history. She next selected a postcard folder from her handful of material and showed the class many interesting and beautiful pictures. These had an added interest when she stated that her uncle had taken them when he was employed as photographer for one of the railroads. Next she selected a government bulletin from which she quoted and showed pictures. She closed the recitation by quotations and pictures from *The Mentor.*

This was followed by another recitation by a different pupil, on the same park. About the same procedure was followed except that second pupil had found information from other sources, *Book of Knowledge,* railroad folders, and library books.

The two recitations were followed by a discussion of glaciers in which the whole class participated, each pupil being allowed to stand without raising hand. None in class seemed to be able to explain satisfactorily how snow became

ice in a glacier. The matter was left over until the next day, the teacher suggesting that the pupils do some reading relative to the topic.

The assignment for following days was further study on parks — teacher asked three pupils to be ready to report. Class was then told to form into groups for study — each group being allowed the privilege of going to halls or staying in room as it preferred. About half remained in room.

The principal visited room again the next day and found class following the same procedure as the day before, a different park, however, being studied. The matter of glaciers, which had been left over from the day before, was satisfactorily disposed of.

Comments of Principal. — The selection of subject matter in this geography lesson was worthy of study: parks are of vital interest to every one, especially children. Motivation, therefore, had been provided for. Pupils had developed initiative as evidenced in their reading at the library, in reference books at school and at homes. Some pupils had gone to railroad offices to get folders, etc.

Lesson was well organized — shown in group work — all pupils in class being called upon to " report " before the study of project was complete; each pupil being allowed to enter into general discussion at close of each recitation. Judgment of relative values was provided for, also; in studying reference books pupils were expected to choose most valuable points, reject others. Teacher kept herself in background, saying no more than was necessary to guide the class.

Further Comments. —We have here a socialized recitation devoted to advanced rather than review materials. A chief factor in the scheme of socialization was the report, which was to bring to the class something that had not already been studied. One difficulty in such work is the provision of something to do for all those who do not report. In the above recitation this could have been accomplished by requiring each child to furnish a few intelligent questions about the parks. These could be asked during the discussion. With text and reference books at hand each member of the class could be required to know all the general basic features of the topic to be discussed, while the one selected to make the report is stimulated by being told that he must bring something special and must go more deeply into the topic than ordinary study and recitation would require.

The comments of the principal indicate that the reports were well up to standard. This is another important point. Classes that have not been trained for such work are likely to respond in a slovenly manner. It will take time and work on the part of the teacher to develop children to the place where they will bring in well-organized reports that show careful preparation. In many classes where such work is attempted the pupil who " reports " merely brings in a few facts copied from an encyclopedia; and often no report at all is made, the pupil merely explaining that he " couldn't find anything " upon the topic. The teacher must

know the individuals in his class and utilize references and make suggestions accordingly.

5TH GRADE — PHYSICAL TRAINING

Lesson given by physical training supervisor.

Teacher had been asked by supervisor to take pupils to girls' playroom, where physical training lessons were being given that particular morning. Boys and girls had been arranged in couples, according to height before leaving classroom. As soon as they reached playroom supervisor asked them to form a circle, by couples, around the outside of the room, making a "wheel," as she called it. She then "halted" pupils and told them they were going to learn a new game that morning called "The Jolly Miller," and asked them to repeat the following lines:

> Happy is the miller who lives by the mill,
> The mill goes around with a right good will,
> One hand in the hopper and the other in the sack,
> The girls go forward and the boys turn back.

In order to play this game supervisor explained that one extra boy would be needed for center of wheel. Fortunately there happened to be one boy without a partner, who was used for that purpose. She further explained to them that as the circle or "wheel" started to move forward the words of the above rhyme were to be repeated. At the suggestion in the last line the boys "turned back," thus causing them to go in the opposite direction to girls. The rhyme was again repeated — on the last line the boys again "turned back," each one, including the one in the center, making an effort to get a partner. Right here was the place where intense interest was displayed in the game. No boy wanted to be left without a partner, and much excitement resulted from choosing. Of course

one boy was always "left" — this caused much good-natured fun and laughter.

The rhyme was repeated from time to time as explained above.

Comments of Principal. — This lesson seemed to provide greater opportunity for the development of initiative than most lessons given in physical training. Much of the work is very formal and gives no opportunity for such development.

Motivation, too, had been provided for.

Lesson was well-organized, each child understood definitely what he was expected to do.

After a short explanation at beginning of lesson the supervisor was "absorbed" by game — she, as well as the teacher and principal, played game with children. This caused much merriment.

Further Comments. — This is an ordinary, well-planned lesson in physical training. It is reported here in order to emphasize the fact that in this school some regular work in physical training is given in addition to the recess periods. The *informality* of the lesson is indicated by the comments of the principal. From these, one may also get a glimpse of her ideal for this work. Keep in mind that this is a fifth-grade lesson. Here we have the beginnings of coöperation. The individual games of the lower grades must now gradually give way to those in which we find more "give and take." This is a good transitional game.

4th Grade Arithmetic

Lesson in Long Division. — Teacher dictated simple problems in long division to pupils seated at desks, at same time writing problem, herself, on board. A child was called upon to give following "formula," other children, and teacher at board, working with her, placing down figures, as she did, etc.

$$\begin{array}{r} 63 \\ 21\overline{)1323} \\ \underline{126} \\ 63 \end{array}$$

"Two goes into 13 six times. We shall see if 21 goes into 132 six times. Six times one is six, six times two is twelve. Yes, it will go six times. Write down the six above the two, multiply, subtract. My remainder is smaller than my divisor. Check the 3 and bring it down. Two goes into 6 three times. We shall see if 21 goes into 63 three times — three times 1 is three, three times 2 is six. Yes, it will go three times. Write the three above the three, multiply, subtract. My quotient is 63. I have the right number of figures in it because I have one more than I have checked."

Other pupils, in turn, were called upon to work similar problems from same formula — all children following and doing actual work at seats. This was the sixth day pupils had been doing such work, and almost all of the pupils seemed to be able to give "formula" *intelligently*, and at the same time work problems with some degree of ease and speed. Five pupils, out of a class of twenty-four, had all of the problems correct, twelve had all but one, and only one had none right.

At the end of the following week the principal again visited the room and found following results on similar problems — by this time "formula" had been dispensed with: Twenty in a class of twenty-eight had all correct, six had one incor-

rect, and two had two incorrect. At the end of the third week another visit was made, at which time much more difficult problems were given, and following results were noted: In class of twenty-six, eighteen had all correct, six had one incorrect, one had four, and one had six.

Comments of Principal. — When the principal made the first visit to the room and found pupils giving a " stereotyped formula " she felt that it could not bring good results, but, after observing for several weeks, concluded that she would have to change her mind. The children were alive and alert to different steps in the process and worked *long division* with keen enjoyment. This teacher used the same method of teaching division last year, and the principal has noted, with interest, that pupils who have been taught by her method are much stronger in long division than those who have come from another room, taught by another method and without the above " formula."

Further Comments. — Here we have an illustration of drill upon elements that are entirely mechanical. There is only one way of doing long division (or, at least, we should teach only one way, for there would be no advantage in taking up the time of the children in teaching them several ways of doing something that is purely mechanical). The teacher in the above recitation used the best means she could devise to impress upon the entire class the easiest and best method. Everybody must learn long division. There are scores of similar processes, all purely mechanical, that should

be learned as early in life as good results can be obtained. *This is no time for discussion, "socialized recitations," problems,* or *projects.* It is a time for short but intensive drills. As is reported in the above case, children usually like such work. It is only when too much of the work of the school is purely mechanical that children rebel.

The above lesson in the midst of so much good work of the opposite type furnishes a fine illustration of a situation that is truly modern. *Modern educational thinkers believe in drill and training of a purely mechanical nature. They demand a sufficient proportion of this type of work to insure adequate results in all the mechanical elements of the curriculum. These mechanics are essential as a basis for initiative, organization, or appreciation.* There may be better ways of teaching long division than the one described here, but every good method must be based upon the idea that this is a mechanical element in the curriculum and must be mastered by drill. Some few teachers who have the modern spirit fail here because they do not keep in mind the necessity for such drill. However, we must not forget that all drill work is only a means to an end. When the child reaches the point where he can write, spell, and perform the mechanical operations in arithmetic in a way that will satisfy the demands of modern life, he need not spend further time in drill. Thus it is recognized as a valuable and fundamental element in modern teaching, but only the antiquated teacher

spends all or the majority of his school time in this type of work.

4TH GRADE — SOCIALIZED READING LESSON

Selection. — "*Kittykin, and the Part She Played in the Great War,*" by Thomas Nelson Page.

Teacher had written following questions on board:

1. When was Thomas Nelson Page born?
2. Describe his home.
3. What war broke out when Thomas Nelson Page was eight years old?
4. Tell what you can of his life after he grew up.

Teacher called on boy in class to recite on first two topics. He stepped to front of room and made a very interesting recitation — one that showed he had probably done some outside reading. After finishing he called for "remarks." On the instant three-fourths of the number of pupils in the class were on their feet ready to ask questions of him. Most of the questions were intelligent and to the point, although a few showed lack of thought — some a braggadocio spirit.

As soon as pupil who had asked question had it answered satisfactorily, he seated himself. This continued around the class until all who had questions to ask were satisfied. In case the pupil who was conducting the lesson could not answer the question he very politely said, "I do not know, will you please tell me." The one who asked the question then answered, receiving a very polite "Thank you" in return. In case a question was not answered satisfactorily the matter was referred to the teacher.

This continued until all the topics had been recited upon.

Pupils were next asked to open their books and read silently the first three paragraphs of the selection "Kittykin," which they had not read before.

Pupil was called upon to tell — in front of class always — what he had read. The same procedure followed as just described for recitation topics.

About half of the lesson was read silently, the other half orally, children constantly asking intelligent questions of each other.

Comments of Principal. — According to McMurry, this surely would be classified as a lesson on the "higher" plane. Motivation, consideration of relation values, organization, initiative, all had been taken care of in socialized work.

Further Comments. — In this recitation we have an illustration of a serious defect that had escaped the notice of both the teacher and the principal. The four questions upon which the study was to be based represent the poorest type of selection. Details about the author are at best only of secondary importance, while knowledge such as the date of his birth is entirely worthless.

The lesson is given here to illustrate that in a school where work of the highest type is being done and in a lesson for which the general plan is excellent, some important factor may be neglected, the result being a decidedly inferior performance.[1]

4TH GRADE — LANGUAGE

Rapid drill in correction of language errors —
Teacher — "I've saw the bluebirds."
Pupil — "Wrong. I have seen the bluebirds."

[1] See Chapter II on "Developing a Point of View."

Teacher — "It is I."

Pupil — "Right. It is I."

A number of such expressions were given in rapid succession to pupils, each being expected to answer instantly.

In the next exercise teacher asked pupils to play they were birds and requested them to make sentences using the word "shall" twice in the same sentence. Such as the following were given:

"I shall be a robin and shall sing you a song."

"I shall be a duck and shall swim."

In third exercise one pupil was asked to stand in front of the class blindfolded; one of the pupils at seat was told to touch him. Class then asked "Who touched you?" Blindfolded pupil then replied by saying, "John *did* it."

Reply by class — "No, John *did* not touch you."

The guessing was repeated until right pupil was found.

In fourth exercise two girls were chosen to play telephone.

First Girl — "Is this you, Virginia?"

Second Girl — "Yes, it is I."

First Girl — "Was that your Mother who just passed our house?"

Second Girl — "Yes, it was she." Etc., etc.

In fifth exercise all pupils were asked to "hide their eyes." Teacher tapped the bell and asked them to guess who had rung it. "Ted *has rung* the bell."

Answer — "No, Ted has not rung the bell." Etc., etc.

Comments of Principal. — Pupils evidently had had some drill on these exercises, for only two errors were made in all games played. Whether right expressions thus drilled upon will "carry over" into life seems to be a question about which there is some difference of opinion. In our building we are doing a great

deal of such drilling and are finding that children are becoming very sensitive to wrong expressions. The play spirit permeated the exercises, thus creating an enthusiasm and interest which was delightful to see. Lesson was splendidly organized. Opportunity for initiative and originality was provided; each child seemed to understand definitely what he was expected to do; pupils were in foreground throughout recitation; teacher in background.

Further Comments. — Such drill as is illustrated here should make up a large part of the language work in the lower grades. Whether or not the teacher may purposely use incorrect English before the children is a disputed question. After observing a great deal of such work it appears that there is little likelihood of negative suggestion. It is, of course, best to avoid very much incorrect expression. In the above lesson there is a good balance.

2D GRADE — ARITHMETIC

Drill Lesson in Subtraction. — Additive method. Combinations such as $\begin{smallmatrix}14&13&16\\-9&-5&-7\end{smallmatrix}$, etc., placed on board — ten in all. Previous to beginning lesson teacher had all pupils stand at seats and play a singing game with a great deal of action in it. Children enjoyed rest and were put in right frame of mind for more serious study. Teacher passed to board, drew a shoe, at the same time made a laughing remark about "The old woman who lived in the shoe," etc. Evidently game had been played before because children seemed to know

that their names would be placed in the shoe if all combinations were given correctly "the first time around."

Teacher, with pointer in hand, called on first pupil to stand and give the ten combinations. Each pupil, in turn, was called upon until entire class had been given an opportunity to recite. One half of the number in a class of twelve gave combinations without hesitation, four were somewhat hesitating, and two failed to get name in "shoe." Those pupils who hesitated and failed had initials placed under combinations, thus reminding them that they would be called upon again to give those particular combinations. Whenever any child had difficulty in giving answers to a combination *at once*, teacher asked pupil to study certain family numbers which she had placed on tag board and tacked to wall.

She then asked all pupils to give all combinations several times in concert. These two plans seemed to help pupils who had "missed." One of the two pupils who failed the first time, when called upon again did so well that her name was placed in "shoe." The other one who failed — a little colored boy — did not seem to profit through drill. Those who were hesitating had improved greatly.

Comments of Principal. — There was not much opportunity to judge of selection of subject matter in above lesson — subtraction is something that *must be taught*. The immediate motives could probably be summed up in the following:

(1) Desire to get name in shoe
(2) Approbation of teacher and principal
(3) Desire to get correct answers to combinations

It is difficult for children in this grade to grasp remote motives. The lesson was splendidly organized — shown

by fact that work had been placed on board before school — each combination was somewhat more difficult than preceding one — every pupil called upon to recite — thorough drill given to those who did not recognize combination — "family" cards on walls, etc., etc. Perhaps the teacher might have brought the children into the foreground somewhat more by socializing the recitation. Principal suggested that she give some time to Whitney's *Socialized Recitation.* Principal is finding that it is a most difficult matter for teachers who have taught many years to place themselves in the background and the children in the foreground.

Further Comments. — As mentioned by the principal, the chief defect in the above lesson was found in the fact that each child recited individually to the teacher while the rest were idle. This could be overcome by organizing the entire class to observe and correct mistakes. The final statement of the principal is well worth considering.

General Observation

The elements of teaching and the improvement of teaching as represented by these recitations described and criticized by the principal of the school illustrate many of the factors explained in detail in preceding chapters. In the eight recitations, thinking, initiative, drill, socialized recitations, teacher in the background, intelligent questions by the children, and the modern

point of view are illustrated in regular classroom experiences. In addition we have the comments of a principal who is working with the teachers, trying to improve their work.

I have on file illustrations from over a hundred different schools where work similar to that considered here is being done. There is developing over the country a fine spirit of growth and improvement. Some of the things accomplished by sixth grades in these schools are almost beyond belief. Between the writing of these lines an observation was made of a sixth-grade pageant, "A Dream of Peace," written, staged, costumed, announced, and presented by a sixth-grade class. The ideas, attitudes, evidences of appreciation of world problems, and technical knowledge displayed were equivalent to the work of a group of talented and trained adults, and, throughout, it was obvious that the work was that of children taught by a superior teacher who at all times remained in the background. Such work is nation building. It suggests to the observer that no one has as yet fully realized the power of education when the art and science of teaching are fully appreciated by the teachers of the entire nation.

Summary in Suggestions for Practice

1. Do everything you can to make your school *a growing school.*
2. Work for an *atmosphere of achievement.*

3. Invite your principal to your room and ask for comments upon your recitations.

4. Train the children in your classes so that they can go out of doors or into the hall and work together with profit as well as did the third-grade class described here.

5. Emphasize in your teaching the points used by the principal in commenting upon the recitations, *child initiative, thoughtfulness and consideration* for each other, *intelligent questions* on part of *children*, emphasis of *worthwhile subject matter*, and *self-expression* before an audience.

6. Keep in mind the fact that this school emphasized drill of the proper kind and that results in the mechanical elements of school work were not lacking.

Questions to Emphasize Chief Points in Chapter XIII

1. Why was the work of the school described in this chapter selected for illustration here?
2. What was the general atmosphere of the school?
3. What modern ideals are illustrated in the different recitations?
4. In what way is the growing teacher advised to make use of the illustrative recitations?
5. What were the aims of the 3 B dramatization?
6. What values did the principal see in the review lesson on South Africa?
7. What type of work is emphasized in the fourth grade arithmetic?
8. What did the principal think of this type of work?
9. What is said about drill in correct English in evaluating the second grade language lesson?

Problems for Discussion Suggested by Chapter XIII

1. Would you like to teach under the principal described in this chapter? Why?
2. Have you taught or observed recitations similar to those described here? Make a report of such a recitation.
3. What is your opinion of the values emphasized in the 3 B dramatization?
4. Discuss the emphasis given to the need of drill and mechanics.
5. Do you agree with the general observations made at the end of the chapter? Why?

APPENDIX

Books Mentioned by Superior Teachers

The books listed below were reported by superior teachers as being especially helpful to them. Every book in the list has been mentioned by at least five different teachers. However, it is not at all complete and does not contain many recent publications that are undoubtedly of great value.

Ayres, L. P. — *Laggards in Our Schools;* Russell Sage Foundation. Has demonstrated to teachers the necessity of dealing with backward children in a different way than they were treated a decade ago.

Bagley, W. C. — *The Educative Process;* The Macmillan Co. Among others a State Supervisor of Rural Schools of the state of Illinois mentioned this book as having made it possible for him to comprehend the significance of education as he never had before.

Bonser, F. G. — *The Elementary School Curriculum;* The Macmillan Co. A superior sixth grade teacher stated that from reading this book she was helped to introduce successfully the project method into subjects which she had previously considered purely mechanical.

Burton, W. H. — *Supervision and the Improvement of Teaching;* D. Appleton and Co. A book that only recently came to the writer's desk. It appeared so wholesome and thorough that it was passed on to half a dozen superior teachers, all of whom reported that they regarded it as exceptionally valuable.

COOK, A. S., TALL, B., and others — *The Baltimore County Course of Study;* Warwick and York. Frequently described as a most comprehensive and suggestive course of study. Teachers report that they find it very helpful to refer to when it is necessary to find materials to enrich the curriculum.

CUBBERLEY, E. P. — *Public Education in the United States;* Houghton Mifflin Co. Mentioned by superintendents, principals, and teachers for providing knowledge and inspiration that made them desire to make of the American public school all that it ought to be. School officers of Detroit, a city noted especially for progressive education, report that they have made use of the ideas in this book as a basis for modifying school practice in Detroit.

EARHART, L. B. — *Types of Teaching;* Houghton Mifflin Co. Is reported as being specially helpful in the solving of typical daily teaching problems.

FREELAND, G. E. — *Modern Elementary School Practice;* The Macmillan Co. Teachers report this book especially for its concrete treatment of The Problem Method, The Project, and Socialization.

GESELL, A. H. — *Normal Child and Primary Education;* Ginn and Co. Many superior primary teachers report this book as being especially valuable in its interpretation of child nature.

HARTMAN, G. — *The Child and His School;* Published by Bureau of Educational Experiments, 144 W. 13th St., New York City. A recent book that a number of superior teachers mention especially for its wealth of suggestive material and its bibliography.

HODGE, C. F. — *Nature Study and Life;* Ginn and Co. This old book seems to be about as useful to teachers interested in nature projects as it was when first published.

HOLMES, W. H. — *School Organization and the Individual Child;* The Davis Press. This book did not have a very wide circulation, but a number of successful superintendents as well as superior teachers reported that it gave them a complete statement of methods of meeting the needs of the individual.

JUDD, C. H. — *Introduction to the Scientific Study of Education;* Ginn and Co. A number of progressive teachers and superintendents report that reading this book caused them to see that there is a real opportunity to develop a *science* of education.

KILPATRICK, W. H. — "The Project Method;" *Teachers College Bulletin;* Columbia University, New York City. Reported by many as having established in their minds the fundamental reasons for project teaching.

MCMURRY, F. M. — *How to Study and Teaching How to Study;* Houghton Mifflin Co. Mentioned many times as a well-organized, concrete account of processes that should be developed in teaching children how to study.

MCMURRY, F. M. — *Elementary School Standards;* World Book Co. This book has been mentioned more times than any other on the list. Teachers refer to it as having enlarged their ideas of the effects of teaching upon the activities of the child.

NATIONAL SOCIETY FOR STUDY OF EDUCATION — *Nineteenth Yearbook — Part I;* Public School Publishing Co. Mentioned for its value in making clear the processes of scientific drill lessons.

NATIONAL SOCIETY FOR THE STUDY OF EDUCATION — *Twentieth Yearbook;* Public School Publishing Co. Has helped superior teachers in developing the project method.

PARKER, C. S. — *General Methods of Teaching in Elementary Schools;* Ginn and Co. Referred to especially on ac-

count of its lucid explanation of everyday teaching and the application of scientific principles to teaching.

PATRI, A. — *A Schoolmaster of the Great City;* The Macmillan Co. After reading this book a Seattle high school principal reported that his school had an entirely different appearance to him. He saw possibilities for work and results that he had not thought of before.

STRAYER, G. W., and ENGLEHARDT, N. L. — *The Classroom Teacher;* American Book Co. Chapter III has proved especially valuable to supervisors and to teachers who were interested in a complete analysis of the problems of supervision.

SWIFT, E. J. — *Mind in the Making;* Scribner's Sons. Reported by many teachers as being as interesting as popular fiction and very practical.

TERMAN, L. M. — *The Hygiene of the School Child;* Houghton Mifflin Co. Superior teachers state that a knowledge of the facts contained in this book is indispensable to good teaching.

WADDLE, C. W. — *An Introduction to Child Psychology;* Houghton Mifflin Co. Chapter I of this book has been exceptionally effective in showing teachers the necessity of working for child welfare. Every teacher who has read this chapter has been profoundly impressed.

WHIPPLE, S. M. — *How to Study Effectively;* Public School Publishing Co. Regarded by many teachers as indispensable for use as a handbook to remind them of the different factors to emphasize in teaching children how to study.

WILSON, H. B., and WILSON, G. M. — *Motivation in School Work;* Houghton Mifflin Co. Recommended by teachers for its concrete suggestions on the practical problems of classroom motivation.

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